The Viking, February 2021

Town of Veazie

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**Wilcox Wellness offering after-school workouts via Zoom**

A growing number of students at VCS are participating in a series of virtual workouts on Monday afternoons led by Katie Norwood, a trainer for Wilcox Wellness and Fitness of Bangor. The workouts, which last about 30 minutes, are conducted via Zoom and are completely voluntary. The workouts are held at 4 p.m., which allows students to log onto Zoom from their home computers—and for their family members to join in.

Matt Cyr, Principal and Superintendent at VCS, says about 50 students in grades K-8, along with staff and family members, have been attending. Paige Wilcox of Wilcox Wellness says the workouts give the students an outlet to be physically active during the weird time of Covid-19.

"Katie takes the kids through a personal training session, coaching and encouraging them during the session," says Ms. Wilcox. “Katie is able to deliver"  

(Please turn to page 4)

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**Hathaway Holiday Lights successful at VCS**

Despite some issues with the weather, Rick Hathaway says the move of the "Hathaway Holiday Light Show" from Bangor to the Veazie Community School for the Christmas 2020 season was a success.

Rick—with his wife Deanna, their children, Warren, 9, Ainsley, 7, and Vivian, 4, and many volunteers—installed more than 50,000 holiday lights at the school, which were synchronized with music that viewers could listen to on their car radios.

The light show was voted “best overall” on a list of Bangor-area holiday light displays, earning the Hathaway family a $500 cash prize, which was immediately donated to the Neonatal Intensive Care Unit (NICU) at Northern Light Eastern Maine Medical Center. Rick says he’s planning to continue setting up the holiday light show at VCS as long as the town and the school approve.

“We’re more than happy to do it again next year and for years to come,” he says.

During the previous eight years, Rick held his holiday light show at his home in the Judson Heights neighborhood of Bangor. Last year, he and his family decided to move.

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**Veazie Town Meeting and Municipal Election set for June 8**

The Town of Veazie will be holding its annual Town Meeting/Municipal Town Election on Tuesday, June 8, 2021.

Nomination papers for municipal vacancies will be available at the Veazie Town Office on Friday, February 26, and can be picked up Monday through Friday, 8:00 a.m. to 4:30 p.m.

Vacancies include:
- Town Council—one position for a three-year term.
- School Committee—three positions, two for three-year terms and one for a two-year term.
- Sewer District Trustee—one position for a three-year term.

To be qualified for an office, the State requires that the candidate be a citizen of the United States, a Maine State resident, and at least 18 years old.

In addition to the State requirements, the Town of Veazie says that elected officials and/or candidates for the Town Council and School Committee must be registered voters and shall reside in the Town of Veazie during their term of office.

Nomination papers must contain signatures of no less than 25 registered Veazie voters and no more than 100.

The filing deadline for nomination papers is by the close of business on Friday, April 9, 2021.

If you have any questions please contact Julie Strout, Deputy Clerk, at the Town Office at 947-2781.

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**Vetri Vel finalist in national Science Talent Search**

Vetri Vel, a senior at Bangor High School, is one of 40 finalists in the Regeneron Science Talent Search, the nation’s oldest and most prestigious science and math competition for high school seniors.

Vetri is the son of Valli and Senthil Vel of Veazie. As a Regeneron finalist, he has received $25,000 in scholarship funding. He and the other finalists will participate in a virtual competition from March 10-17, where they will undergo a rigorous virtual judging process to compete for more than $1.8 million in awards.

They will also have an opportunity to interact with leading scientists and display their projects to the public during a virtual event on March 14. Vetri’s project is titled: “Real-Time Fall Detection System for the Elderly Using Thermal Imaging”  

(Please turn to page 6)

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**Upcoming Holidays and Council Meetings**

March 8——Council Meeting
April 12——Council Meeting
May 10——Council Meeting
May 31——Memorial Day, Town office closed
June 8——Annual Town Meeting and Election
As I start each of these winter articles, I want to say Happy Winter! The groundhog this year didn’t see his shadow, so it appears winter will be around for a little bit longer. I will say we have been fortunate so far this winter with low amounts of snow.

This past year the Town awarded the winter maintenance contract to Black Bear Lawn Care, which has done a good job clearing the snow and making the roadways and sidewalks passable. If you have a concern regarding snow plowing, I urge you to contact either myself or the Town Office as soon as possible so we can have the concern addressed.

As a reminder, if your mailbox is damaged or destroyed by the plow, the Town has a Mailbox Replacement Policy in effect. The contractor will make every effort to temporarily fix the mailbox so you will continue to receive mail. The permanent repairs and/or replacement will be taken care of once the weather allows.

Because of the COVID pandemic, we chose not to hold our staff Christmas party, but we continued the tradition of recognizing Employees of the Year for each department. I would like to congratulate Julie Strout from the Town Office, Caleb Metcalf from the Fire Department, and Chad Young from the Police Department. Each of these employees were selected by their peers and I must agree that each of them goes above and beyond for the community. A plaque showcasing these recipients is displayed in each department.

Department Heads and a representative of the Budget Committee met with the Council to receive direction on FY 21/22 budget. This year we have been requested to be mindful of the impact the pandemic is causing for residents of our community and try not to have any major increases to the overall budget and additionally try to lower the mill rate.

With these directives in mind, both Municipal and School Department Staff will work diligently to meet the requested criteria. The Budget Committee currently has two openings, and I would ask that anyone who would like more information on the requirements of the position to contact me so we can discuss it. Any interested party may also simply submit a citizen involvement application, which will be reviewed by the Council for approval.

I also want to remind everyone that the budget meetings are open to the public, and I would encourage you to attend if you would like to be more involved with the budget process. The schedule for the meetings is posted on the Town’s website.

At the February Council meeting, the Council discussed and approved the Capital Paving Projects for FY 2021/2022. Unfortunately, we had to waive from our 5-year capital plan, as the Water District was unable to participate with us because of an unplanned project with the State of Maine.

After lengthy discussion it was decided to move the reconstruction of Thompson Road to next year when we could do the project together. Because of this change, I met with the paving contractor to determine what other roads could use maintenance. I presented my findings to the Council, and the following roads were approved:

- Sunset Drive will have final surface added.
- Eagle View Drive will have a shim and overlay.
- Shore Road will receive a shim and overlay.
- Thompson Road Extension (the intersection of Prouty to the entrance to the Telephone Building) will receive a shim and overlay.
- East Sunset and Chickadee Lane will receive a shim and overlay.
- Flagg Street from Olive to the Senior Center will receive a shim and overlay.

Since the start of the pandemic, I switched from having people come to the office to pick up food commodity boxes to delivering them to Veazie residents who are 60 years and older so they could continue to receive the food without having to leave their homes.

For those not familiar with the program, the commodity boxes (Continued in next column)
**Dan Morgan new live-in firefighter for VFD**

Dan Morgan, a sophomore at the University of Maine, is the new live-in firefighter at the Veazie Fire Department.

A native of Voorhees, NJ—near Philadelphia—Dan is studying biomedical engineering at the University of Maine but is planning on a career in firefighting.

He is also taking a course in fire science at Eastern Maine Community College, which is where he learned of Veazie’s live-in firefighter program.

Dan’s new home is at the fire station, where he has been living since January. He’s hoping to stay there until he graduates from UMaine in 2023.

‘He’s a quick learner, giving us a grasp of a lot of the skills needed for the job,’ Chief Metcalf said.

‘He’s gaining confidence driving the apparatus, and he’s eager and willing to learn. He’s young with plenty of room to grow.’

Dan started his orientation at the fire department in November, when he started learning about the community and the department. It was also an opportunity for Dan to train on the equipment, hone his skills as an EMT, and continue the education offered by the University of Maine’s EMS program.

Dan said he’s been interested in firefighting since he moved into the fire house live-in quarters in January, he moved into the fire house live-in quarters and continued the orientation until he moved into the fire house.

Dan said he’s been interested in firefighting since his twin brother became a firefighter after high school.

‘I’ve always been interested, and when I arrived at UMaine, I had the opportunity to join the University Volunteer Ambulance Corps as an EMT.’

He said he learned about the Veazie Fire Department’s live-in program through his fire science course at EMCC. ‘They hooked me up with Veazie, and I met with Chief Metcalf, who explained the process.’

Dan is on duty from 7 a.m. to 5 p.m. on Tuesdays and Thursdays, and every other weekend. On Mondays, Wednesdays, and Fridays, he either has classes or works with the University Volunteer Ambulance Corps, a student-run EMS organization on the UMaine campus.

At night, Dan is in his quarters from 10 p.m. to 7 a.m., and he’s on call during those hours.

‘I respond to anything during those hours,’ he says.

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**Pastor Seymour, Veazie Congregational Church: ‘A Leaf’**

For several days in January, my wife and I observed a most unusual thing: a leaf. It was not just any leaf, though. It was not in a tree or blowing about in the lawn. Nor was it caught amongst the shrubbery. It was different. At first, other than the occasional glance, we didn’t pay much attention to it. However, the longer it stayed in the same location for several days, then weeks (three altogether), the more we found ourselves curiously watching.

It was unusual, to be sure. It was shaped, more or less, like a waffle cone — wrapped and enfolded in itself. As the snow slowly melted, it became apparent that the stem of the leaf was fully extended. To this day, though, I am uncertain as to whether it was merely stuck in the snow or if it was attached to a twig which had broken off the neighbor’s tree.

I have not seen the leaf for a few weeks now, and it is unclear as to whether it has blown away or if, in fact, the recent snowfall (and snowplow) have buried it once again. Yet, each new day finds me looking out the window, hoping to see it reappear.

The reality is that this tiny leaf may, at first, seem rather irrelevant and unimportant to you, especially when we recognize that there are so many uncertainties with which we currently face. But to me this tiny leaf is one of those things we need to experience during these uncertain times. It is not my intention to minimize our concerns: the Covid-19 epidemic, the weather, or the many other things which tend to plague us with much anxiety. No, on the contrary. It is my perspective that what we need are things just like this leaf. Things which help us to keep our focus on the beauty, the wonderment, and the blessings which are ours.

There is an old, familiar, adage: ‘Stop and smell the roses,’ which might, to some, seem rather irrational.

But my hope is, as we march forward through these difficult times, that we may all pause and take the time to behold our many blessings which we too often take for granted. May we, once again, find the joy and wonderment of life in every day?

‘The answer, my friend, is blowing in the wind.’

Pastor Seymour, February 2021

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**News from the Veazie Congregational Church**

Our doors may be closed but our hearts remain open! We have closed the doors due to the pandemic but our congregation meets each week via Zoom. We tried this new format out on Christmas Eve and it was wonderful to be together on the screen. If you’d like to join us, send a message to ozchurchcher@gmail.com and we will add you to our participant list. All are welcome.

We hope you noticed the Valentine’s banners outside the church. The banners were donated by a member of the congregation. They are a good reminder that the church is still active, and we are thinking of the residents of Veazie.

We have begun to have Takeout Suppers again. Watch for notices in front of the church and on our Facebook page. All menus include a full meal and dessert – a great deal for $8.00! We are also making tentative plans for our Plant and Rummage Sale in May.

We closely watch the numbers of COVID cases in the state and the recommendations of the Maine CDC. As numbers go down and more folks are vaccinated, we will plan to reopen for in church services. We have prepared the meeting house with spacing, disinfecting supplies and masks. We hope you will join us when the doors are open once again. For updated information, check our Facebook page or email the address above.

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**REAL ESTATE TAXES**

**ANY REAL ESTATE TAXES LEFT UNPAID AFTER APRIL 30, 2021, WILL BE PRINTED IN THE TOWN’S ANNUAL REPORT**
Superintendent’s message:

COVID, Outdoor Play, Snow Day as Remote Day, FY22 Budget Development

COVID

We continue to safely provide in-person and remote learning options for our families. Students in grades PK-2 attend 5 days/week, and students in grades 3-8 use a hybrid model which includes two days of in-person learning with three days of direct, remote instruction. We also have students who choose to be fully remote. To date, we have had three positive cases of COVID-19 within our school. Each of these cases involved transmission happening outside of the school. VCS safety protocols (including quarantining, masking, keeping safe distances, cohorting, and air quality) have proven to be vital in preventing transmission from happening within the school building. We greatly rely on the vigilance and honesty of our families and community in reporting illness and complying with protocols. Our HYFLEX school-based team continues to meet regularly to address concerns and consider options for future planning. At this point in time, we are hopeful that case numbers will continue to trend downward, and state vaccination plans will shift to prioritize education staff and community in reporting illness and complying with protocols.

Outdoor Play

All of our students in grades PK-8 have embraced the outdoors this fall and into the early winter. Kids are coming to school home with lunches for the snow day. Federal guidelines require that we offer lunch in order for a day to count as a school day. We have collected a list of students who want lunch on “last minute” cancellations and/or snow days, and make these available for pickup. If you would like to be added to this list, please contact our kitchen manager, Betsy Brooks at brooks@veazies.org, or our office manager, Tiffiny Lindsey, at tillen­scy@veazies.org. We will continue to operate snow days as remote learning days as long as we can safely provide lunch. At the end of the winter season, we will be surveying students, staff and families on this pilot. Feedback provided on the survey will help to inform how we approach snow days in future years.

After School Programs

Despite the challenges of safely operating school during this pandemic, we are proud to be offering a variety of after-school programs for our students. All students (and their families) can participate in live fitness training classes (delivered via Zoom) every Monday at 4 p.m. We have once again partnered with Wilcox Wellness and Fitness staff who run these high-quality classes. Our coding club meets remotely on a weekly basis. Thanks to a matching grant from the Ferkolf Foundation, we purchased 10 LEGO WeDo kits, and some of our younger learners have been staying after school for in-person robotics lessons. We are thinking of this as our “folder” program for the Viking Robotics team, which has been meeting after school in-person for a couple months now. The State competition is scheduled to be held in April using a virtual format. Our robotics team continues to strive for excellence, having finished in the top 10 in the state each of the last three years, including a runner-up finish last year!

FY22 Budget Development

The development of our FY22 budget will involve great consideration of current and future planning. Our goals will include using FY21 carry forward to fund our ongoing work with Ci3T, significantly reduce our reliance on the capital reserve, newly developed after-school programs, and it is time for a replacement for our cafeteria patio project— you may recall we were awarded partial state funding last winter for this, but COVID prevented us from completing the project last summer. Our skylights in the primary and intermediate wings have been leaking through the years and have been repaired numerous times. These Kalwall panels have exceeded their life expectancy and will need to be replaced this summer. We will continue to replace more sections of our exterior walls (choosing signs of dry rot) with metal surfaced and an added layer of rainguard and insulation. Inside the school, our floor tiles are deteriorating faster than we can repair, and it is time for a replacement. Classroom carpeting will also be replaced. All of these projects are routine maintenance required of a facility in order to maintain safe teaching and learning environments now and in the future. I look forward to collaborating with the School Committee, Town Manager Leonard, the Town Council, and the Town Budget Committee.

—Respectfully,
Matthew D. Cyr
Superintendent of Schools
Veazie Community School

“Small School, BIG Heart!”

Wilcox Wellness offering after-school workouts via Zoom

(Continued from page 1) an incredible training experience via Zoom that feels just like training in person at the gym with the level of coaching that they get.” Ms. Wilcox says the participants include students with a wide range of physical abilities and interests.

“Just doing the workouts is one thing,” Ms. Wilcox says. “But doing the workouts with a group of like-minded people wanting to get better and to help each other is an added benefit.”

She describes the workouts as “functional training”—training that is designed to have participants move their bodies in all planes of motion, so that they’re able to be strong doing everyday actions.

Monday afternoon sessions will continue through the end of the school year.

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First Graders at VCS celebrate 100th day of school

By Laurie Kimball
1st Grade Teacher

First Grade celebrated the 100th day of school on February 10 by dressing in what they thought the style will be in 100 years! They also had fun doing special activities that related to 100, such as writing about what they would do with $100 and what types of things they would never want a hundred of!

They also did 100 math problems, wrote/read 100 words, wrote what they will have done by the time they are 100 years old, and lots more.

It was a fun day and we are so thankful we were in person for it!!

WHAT’S IN YOUR TOOL BOX??

By Jen Desistso
Occupational Therapist
Veazie Community School

As an Occupational Therapist who works with children and families, I often work to help children develop coping skills for difficult situations. The COVID-19 pandemic has brought about changes in most areas of our lives. It’s easy to lose your hopes and brood over the negative side effects of any event, especially when as a community we’re battling a global pandemic. However, our kids, teachers, and families have been shown to be incredibly resilient and adaptable, not to mention computer savvy!

In mental health, we look at coping skills, or “getting through life skills” in 6 content areas, such as sensory tools (such as something to touch, taste, hear, or smell); distraction (such as puzzles, books, music, etc.); opposite action (doing the opposite of your impulse such as watching something funny when your feeling sad); emotional awareness (tools for expressing feelings like drawing, list of emotions, journal, etc.); mindfulness (to ground yourself in the present moment, such as deep breathing, positive self-talk, yoga etc.); and having a crisis plan (contact information of support and resources when coping skills are not enough, such as name of a friend, therapist, or crisis hotline).

In looking back over the past year, what are some of the things you would want available to help you and your family get through these trying times? I wanted to share with you what I would pick, based upon my family and my experiences with our VCS school experience.

1. A time out card—well, maybe a few of these—for an adult or child, this is essential.
2. A pile of forgiveness cards—for when we impinge on someone’s space, feelings, raise our voices, or forget to do something we should have...
3. Playing cards or a board game—to have a few laughs, connect with each other, and distract from the day’s events.
4. A timer—to help set a limit on things such as technology or … You fill in that blank!
5. A Journal or camera—to record the priceless moments that we will never want to forget or perhaps need to forget!
6. Pad and pencil—to draw and express thoughts, feelings or the scenery.
7. Gloves and a hat—for walking outside when it is ungodly cold.
8. A ball—to help get everyone’s energy out.
9. A box of favorite recipes—for family or Zoom cooking fun.
10. A Netflix subscription—to distract and have some laughs.
11. A few positive quote cards, like “Energy and persistence conquer all things.” by Ben Franklin, or “Never, never, never, never, never give up.” by Winston Churchill.
12. Music—to calm and uplift or dance.
13. Coffee—for the smell and taste …. Mmmm!
14. Soap and hand-disinfectant—it is awesome that our kids have a new understanding of hygiene and self-care!

What would you put in your tool box?
A wall-mounted Real-time Fall Detection System.

**Vetri Vel’s Fall Detection System**

(Continued from page 1) and Deep Learning.”

He has been working on it for more than 18 months—since the summer before his junior year in high school.

Vetri said the inspiration for his project came after he learned about several instances of elderly people falling and not getting up for hours or even days.

For example, he said his neighbor’s elderly mother had removed her medic alert pendant before leaving home, and forgot to wear it when she returned home.

“Then she fell and was unconscious,” he said. “The next day people checked on her and found her on the floor, and she had to be admitted to the hospital.”

Vetri says he hopes to avoid this type of incident by developing a small unit that can be wall-mounted to monitor the state of an elderly person in real time without invading his or her privacy.

To do that, Vetri proposes using a low-resolution thermal camera connected to a very small microcomputer. The system uses Deep Learning, a form of artificial intelligence, to analyze the images and see if someone in the camera’s view has fallen.

“If the system detects a fall, it can call for help by sending a text message or an automated phone call over the internet to a contact person,” he says. It could also call the police or a nearby hospital.

Vetri created a poster summary of his research, which appears below.

Vetri and the other 2021 finalists were selected from 1,760 highly qualified entrants, all of whom completed an original research project and extensive application process. Earlier...

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**Real-time Fall Detection System for Elderly People**

**GitHub Repository**

**Construction of Embedded System**

An 80x60 pixel FLIR Lepton thermal camera and an Raspberry Pi using SPI video protocol and GPIO pins [5].

**Collection of Thermal Images**

Thermal images were collected to distinguish between normal and fallen individuals.

**Dense Neural Networks**

Layers of nodes transform data (pixel values) using weights and biases, ending at an output layer containing classification scores for normal and fallen [6].

**Convolutional Neural Networks**

Convolutional filters are applied across an image to detect features such as horizontal and vertical edges [6].

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**Table 1. Criteria for proposed solution**

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<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>1. Embedded system</td>
<td></td>
<td>Fall detection with high accuracy</td>
<td>Easy to use and robust</td>
<td>Open source</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2. Components of the proposed system and the objectives/constraints satisfied**

<table>
<thead>
<tr>
<th>Component</th>
<th>Constraints satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal camera</td>
<td>Constraints 1 and 2 (privacy and works in the absence of light)</td>
</tr>
<tr>
<td>Raspberry Pi</td>
<td>Constraints 3 and 4 (low cost and can call for help) and Objective 1 (embedded system)</td>
</tr>
<tr>
<td>Deep learning</td>
<td>Objectives 2 and 3 (high accuracy and robustness)</td>
</tr>
<tr>
<td>Python</td>
<td>Objectives 3 and 4 (easy to use and open source)</td>
</tr>
</tbody>
</table>

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**Fig. 2.** (a) FLIR Lepton connected using SPI and LED wired directly (b) Final wall-mounted system.

**Fig. 3.** Representative thermal images of people sitting, standing, and fallen from different sources.

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**Fig. 4.** Dense Neural Network.

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**Fig. 5.** Feature maps generated at edge detecting filters are applied.

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**Fig. 6.** Schematic of a CNN.
in January, the Society for Science and Regeneron Pharmaceuticals named the top 300 scholars. The finalists were selected based on their projects’ scientific rigor and their potential to become world-changing scientists and leaders.

Vetri graduated from Veazie Community School in 2017. He said he wanted to thank all the teachers he had at VCS for fostering his interest in math and science over the years.

He had special mention for:
• Mr. Gonyar, “especially for teaching math as a way of thinking—not just formulas, but a process that made me generalize my mathematical thinking and problem solving.”
• Miss Spinney, “for making science really fun.”
• English teachers like Mrs. Cobb and Mrs. Hileman, “for getting me interested in reading and making me better at writing, too.”

The Regeneron Science Talent Search, a program of Society for Science since 1942, is the nation’s oldest and most prestigious science and math competition for high school seniors. Each year, around 2,000 student entrants submit original research in critically important scientific fields of study and are judged by leading experts in their fields. Unique among high school competitions in the U.S. and around the world, the Regeneron Science Talent Search focuses on identifying, inspiring and engaging the nation’s most promising young scientists who are creating the ideas that could solve society’s most urgent challenges.

Talent Search alumni include recipients of the world’s most coveted science and math honors, including 13 Nobel Prizes, 13 National Medals of Science, six Breakthrough Prizes, 21 MacArthur Foundation Fellowships and two Fields Medals.

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**Flowchart for Training Neural Networks**

The weights and biases for each layer of a neural network, as well as the filter coefficients in the case of a CNN, are optimized using gradient descent [7]. The algorithm in the flowchart was coded in Python.

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**RESULTS**

CNNs learned faster and reached a higher accuracy than dense neural networks, so they were used to generate the rest of the results. Validation accuracy was calculated by testing the networks on a set of images not used for training.

<table>
<thead>
<tr>
<th>Number of Convolutional Layers</th>
<th>Avg. RMS Loss</th>
<th>Avg. Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.015 (SD 0.011)</td>
<td>1.000 (SD 0.000)</td>
</tr>
<tr>
<td>2</td>
<td>0.015 (SD 0.026)</td>
<td>0.994 (SD 0.013)</td>
</tr>
<tr>
<td>3</td>
<td>0.037 (SD 0.043)</td>
<td>0.978 (SD 0.039)</td>
</tr>
</tbody>
</table>

Table 3. Accuracies of CNNs with varying numbers of layers

<table>
<thead>
<tr>
<th>Convolutional Layers</th>
<th>Filter Dimensions</th>
<th>Avg. RMS Loss</th>
<th>Avg. Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2 x 2</td>
<td>0.090 (SD 0.058)</td>
<td>0.984 (SD 0.032)</td>
</tr>
<tr>
<td>4</td>
<td>3 x 3</td>
<td>0.048 (SD 0.046)</td>
<td>0.798 (SD 0.013)</td>
</tr>
<tr>
<td>6</td>
<td>3 x 3</td>
<td>0.006 (SD 0.027)</td>
<td>1.000 (SD 0.000)</td>
</tr>
</tbody>
</table>

Table 4. Accuracies with varying numbers and dimensions of filters

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**CONCLUSIONS**

• An operational wall-mounted embedded system for detecting falls in real-time has been developed, potentially increasing the safety and independence of elderly individuals.
• Deep learning was able to analyze and classify images with a high accuracy of 98.8% (SD 2.6%) even when accommodating a sleeping region and non-human heat sources.
• A minimum of 50 images at 16x12 resolution were necessary to train the system and achieve a high accuracy.
• The programs, list of components, and schematics for the system are open source and publicly available on GitHub along with the research paper.

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**REFERENCES**


What the world needs now

Love and Equity

By Halle Buxton, Grade 8
(The following is Halle’s response to the 8th grade writing prompt, “What do you think the world needs now?”)

I think that there are a lot of things that are needed in the world right now. But I think the most important thing that the world needs and will always need is love and equity… but it is needed now more than ever.

Over the last few months people all around the world have experienced so many different tragedies, so much devastation that would never have been expected. None of this had been prepared for. We have all experienced a lot of hatred and injustice. And in these trying times, that’s the last thing we need to have.

With the murdering of innocent black people, new anti-LGBTQ laws that have been put into place, the nation’s division during the election and swearing in of President Joseph Biden, and so many more huge historical events, there has been a lot of hate and negativity throughout the last year.

I think the world right now has many issues that need to be resolved that can’t just be fixed with some vaccine. There are many pressing issues in not only our society and government, but in each and every one of us. We need to learn to be more loving, accepting, and empathetic towards others… and I mean all other people. We also need to learn to help those who may have a hard time helping themselves and always stand up for what is right and good.

We are living through a very important time in history. This year will go down in history, and someday our children and grandchildren will ask us all about these events that we’re living through right now. And we all want to be on the right side of history… though sometimes it’s hard to figure out what side that is.

To me, being on the right side of history doesn’t mean fighting with the winning team... because the right team isn’t always the team that wins. Sometimes you have to make sacrifices so that you can do what is right. And even if you lose the battle, at least you were fighting for the right cause… at least you tried.

And that’s why I think it’s so important right now, more than ever, for us to stand up for what we believe in. Because when all this has passed and the world moves on, we will all be remembered for what we did during these events and what we contributed to them, and you need to be very careful about that. So, when it comes down to it, it’s quite a simple question.

How do you want to be remembered? It may take you a while to truly figure it out. But in reality, it’s not your question to answer. How you’re remembered is not yours to decide. Because how you’re remembered will be different for every person because every person sees you from a different perspective. I guess the more important question would be, how do you want to remember yourself?

Winter thoughts using sensory language

Winter Wonderland

The silence after a storm
It’s like walking into a quiet room after a loud concert
But instead of a room, it’s a winter wonderland
Everything you see is covered in a white blanket
And individual snowflakes glitter like jewels
The fresh crisp air is clear in your nose
Immediately your busy brain stops
It is refreshed, relieved, and restored by the cool air
Everything is still
It’s as if life has stopped and everything is frozen in time
The silence
The silence is what makes it wonderful
Mystical and magical
As the day fades away into the night
— Halle Buxton, grade 8

S N O W C A L L

The greakest sun yet rises
as barren lands are befallen with slush to the edge
Trees like rotten hands reach from the soils
to clasp what they once had
As humanity
what remains of sanity
and I continue to walk vast lands
of glacier and icy crystals
the only thoughts inside are of distress and dismay
Waters, lakes, rivers are caught under heaven’s dismay
The strong and blurry blow of the wind outside
the frosty window
— Lana Friess, grade 8

Winter feelings

I woke up hearing snow pouring on the roof
The smell of the hot chocolate
And the feeling
Of the house being warmed up by the fire
And the sight of presents piling up under the tree
The sound of TV with the morning news
And the mountains of food on the table
It’s somehow the warmest
And coldest season
— Kianah Albert, grade 8

The Enchantment Of The Snow

In a sleepy haze
I roll out of bed
to find a fresh blanket of snow
The soft, white powder glistens brightly
This new world enchants me
I rush to feel the crisp, cool breeze
against my face
I hear the crunch under my boot
as it breaks the first glitter layer
I taste a cool snowflake
on the tip of my tongue
And I smell the fresh, frigid air
that numbs my senses
— Sarah Hartford, grade 8

Winter Evening

The winter season is finally here
The delicate snow brushes the back of my hand
As I trudge through the perfect storm,
My nose always cold as if it’s being nipped
But somehow I’m still warm,
I head inside to be greeted by the warmth of hot chocolate
I snatch my cat to give her a great big hug
And I slump on the cushiony couch and lightly sip my hot cocoa,
The strong and blurry blow of the wind outside
— Sarah Hartford, grade 8

Winter morning

Blue is the color of the sky and my eyes as I stare off into the horizons,
Red is the color of my hat and my skin, freezing in December’s cold,
Wood is the color of my coat and my hair, shining gold beneath the winter sun,
What do I have left now after all the pain has passed?
My mind is silver like a winter storm that spins somewhere far away,
The red and green are far behind like the sadness I tossed away,
The journey’s been long, like a never-ending story,
But I’ve finally found the conclusion, Though it’s not what I expected, I find it to be as perfect as I can imagine,
Past all of the grief,
All of the agony,
The hysteric,
And all of the blue,
I find myself here at the edge of the world feeling apriety,
For the first time in forever.
— Halle Buxton, grade 8

Winter poems using sensory language

Winter Apriety

Blue is the color of the sky and my eyes as I stare off into the horizons,
Red is the color of my hat and my skin, freezing in December’s cold,
Wood is the color of my coat and my hair, shining gold beneath the winter sun,
What do I have left now after all the pain has passed?
My mind is silver like a winter storm that spins somewhere far away,
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All of the agony,
The hysteric,
And all of the blue,
I find myself here at the edge of the world feeling apriety,
For the first time in forever.
— Halle Buxton, grade 8
Have you ever heard of the Enginerds? Students in grades three, four and five were recently introduced to them during read aloud time.

The Enginerds are a group of twelve year olds who love math, science, and drawing. They sprouted from the imagination of author/illustrator Jarrett Lerner, who visited Veazie Community School via Zoom on February 1.

After hearing from Mrs. Shannon how much the students loved the Enginerd books, Mr. Lerner told us about his Zoom visits. The Veazie PTO graciously funded the visit. Thank you very much, Veazie PTO!!

On the day of the Zoom presentation, the intermediate students gathered on the gym floor with clipboards, paper, and pencils in hand to listen and participate in an engaging session of how to illustrate.

Mr. Lerner shared his “work-in-progress” journal with us. We were amazed how it took him close to 50 tries to draw the avocado shape he wanted for a new book coming out in the fall. We also learned how a journal is a perfect place to keep all his ideas, sketches, and writings as he works on a book.

He stressed to everyone it’s important to take time each day to have a quiet, thoughtful space to let our imaginations flow freely and then record the ideas before they disappear.

Mr. Lerner finished his presentation with a question and answer time and looked at some of the drawings students created during the presentation.

He said he was amazed at the talent our students possess. Once back in the classroom, students worked on some truly amazing illustrations, following some of his advice.

It’s been a fun read aloud book. Mrs. Shannon has ordered a few sets of The Enginerds for the library. We know a few anxious students who want to get their hands on the new one released the day after the presentation. Mr. Lerner showed us the new book during his talk and created quite a stir among the students!
Neveah Prince, 1st grade

By Brian Gonyar, Science Teacher/Robotics Advisor, Veazie Community School

Under challenging circumstances the VCS Robotics Team has worked diligently to have a fun and successful experience once again this school year. We are designing and programming robots to complete “missions”. Our science project is creating an app which will connect friends to “Get People Up and Moving”. The competition will be remote this spring but that hasn’t dampened our spirits!

Participants this year are: Lana Friess, Rachel Wheelden, Olivia Buswell, Duncan Carlisle, Sam Wardrop, Surya Vel, Manyuh Neopal, Aiden Taylor, Patrick Carlisle, Seth Rollins, and Colton Webber.

Primary WeDo2 Lego Robotics Club

By Laurie Kimball, 1st Grade/Robotics Advisor, Veazie Community School

One night a week you can see many primary students in the gym busily working on a new WeDo2 Lego Robotics build.

Students are enjoying being able to choose a new build each week to make and program. They have followed directions on a mini iPad to create race cars, rovers, penguins, windmills and even a helicopter.

They take their builds a step further by programming them to move forward/backward, make sounds, change colors and even drag/pull things. It takes a keen eye, extreme focus and lots of persistence.

The students are doing great and it’s fun to see them so excited and proud of their accomplishments.

The program is for First and Second Grade students. However, due to Covid, we are rotating half of a grade every four weeks.
**Veazie music teacher raises more than $1,000 for Good Shepherd by selling self-recorded album**

By Nina Mahaleris
Bangor Daily News, Jan. 8, 2021, reprinted with permission

VEAZIE, Maine — A Veazie Community School music director raised about $1,250 for Maine’s largest hunger relief organization by selling copies of his own Christmas album. The funds he raised are enough to provide more than 3,700 meals for hungry Mainers.

Struck by the magnitude of hunger in Maine, Michael Arell recorded his album and began selling it— in hopes of donating some money to the organization.

Arell, an instructor and musician, has recorded and directed albums before. But this was the first time he attempted to make an album to benefit a charitable organization—and he wasn’t sure what to expect.

“It sounds silly but I was like, ‘if I can get 10 friends to buy an album that would be $100 and I’d be pretty proud about that,’” he said. “Especially in a really tough year where everyone is struggling, I just wasn’t sure how people would respond to that.”

The albums, which sold for $10 apiece, featured 11 classic Christmas songs played on piano. Arell said he chose songs that exist in the public domain, such as “Deck the Halls” and “Silent Night,” so he wouldn’t have to pay royalties and could give more money to Good Shepherd.

Copies of the album were on sale Thanksgiving Day through Christmas, but people could also stream it online with Spotify, YouTube, Apple Music, and Amazon Music.

At the end of his fundraiser, Arell had sold exactly 123 albums with 1,172 streams. Purchases also ramped up as Christmas approached, he said. “It definitely exceeded my expectations.”

As a teacher, the issue of hunger is personal for Arell. He knows the families in his own community who are struggling to put food on the table amid the pandemic—despite parents working multiple jobs to make ends meet.

The musician is thinking about other ways he can raise money for Good Shepherd next winter. Arell said he wants to continue bringing awareness to the issue of hungry Mainers, as it seems people are more willing to donate food during the holidays, but it doesn’t always last throughout the rest of the year.

“The need is there year-round,” he said.

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**Niki Richard shares moose antlers with several classes at VCS**

Niki Richard, Special Education ed tech at VCS, brought in some moose antlers (sheds) that she and her husband found in the woods. She shared the moose antlers with several different classes and talked about moose in general.
Holiday Lights

(Continued from page 1)
to Veazie, building a house on Buck Hill Drive, because of their long ties to the community. Rick grew up in the family home on Silver Ridge and went to school in Veazie. His mother taught at the Graham School and worked in the office at VCS, and Deanna did her student teaching at VCS as well. The Hathaway children had always attended VCS on a superintendent’s agreement.

Rick talked to Town Manager Mark Leonard and VCS Principal/Superintendent Matt Cyr about setting up the lights at VCS, as he didn’t feel that his new home on Buck Hill Drive would be a fit for holiday lighting because of the location and traffic flow. Both agreed that VCS would be a good home for the holiday lights.

This year, the lighting display at VCS featured 55,000 lights, more than 400 channels of automation, a 25’ mega tree, a 25’ snowflake wall, and much more.

Rick says the biggest difference between having the lights at the school and at home is that he can’t look out the window at home to make sure that there aren’t any issues.

“When there’s a lot of rain and wind, there’s always a question about what happens if something blows over,” he says. “What happens if something goes out because of too much rain?”

This year, the first storm of the season on the night of December 1 took out a number of display items. “We had to delay the start of the display for one night,” he said. “But we learned from that and we’ll make it that much better next year.”

Rick said he’s already thinking about the coming year. “There are always changes,” he says. “You have to change things so people keep coming back.” This year, however, he’ll be able to build holiday lighting props at his new house, rather than try to make arrangements from a half-house or while living in a hotel room.

Rick said he wanted to thank the Veazie Fire Department and Police Department for all the help they provided. He also wanted to thank the town in general for its support and for all the people in Veazie who volunteered and supported the project. “And the school of course for letting us put the lights up there,” he said.

Preschoolers enjoy time in the woods

By Loyann Worster, Pre-K Teacher

This winter the preschoolers at VCS have spent many hours in the woods behind our school.

We have become very familiar with the area near the pond as we watched it change from autumn to winter.

The children have created their own areas in the woods—a section for riding on trees, a stick throwing spot, and a wonderful area for playing hide and seek.

They now call this pond area their “woods playground”.

“It is important that children have lots of opportunities to bond with the natural world, to learn to love it, and feel comfortable in it.”

—David Sobel