ERIC YUYITUNG

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SKILLS

- **Languages:** Python, Java, C++, C, Javascript, SQL, PHP, HTML, CSS
- **Technologies:** Tensorflow, Pytorch, React, Node.js, CMake, Git, AWS, GCP

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Invision AI, Toronto, ON **Summer 2021**

- Operated within Vehicle Occupancy Detection (VOD) team to develop a 1D LiDAR detection simulation program in Python and a 3D LiDAR parsing tool in C++, reducing false detection rate by 4% and improving system test coverage respectively.
- Detected and diagnosed a critical system edge case during a contract bid. Compiled results and coordinated with component provider to generate a reliable patch.
- Improved transparency of live VOD system performance during contract bid by developing an automated report in Python.

Data Analysis Intern, Densify, Markham, ON **Summer 2019**

- Prototyped and evaluated multiple algorithms for optimal allocation of Amazon Web Services (AWS) EC2 convertible reserved instances (RIs) and created a framework to productize the best RI allocation strategy.
- Generated over $150k in monthly AWS savings for multinational software corporations during the pilot application of the strategy, leading to it being implemented as part of a core company offering.

Software Development Intern, Densify, Markham, ON **Summer 2018**

- Prototyped and designed a tool in Python which retrieved configuration and performance data from virtual machines hosted on IBM Cloud, facilitating a company product proof of value for a multinational technology corporation.
- Developed a Python script on AWS Lambda to detect deletion of AWS EC2 Instances and collect partial metric data otherwise lost between daily audits.

EXTRACURRICULAR EXPERIENCE

Machine Vision Developer, Queen's Autodrive II Design Team, Kingston, ON **Sept 2021 – Present**

- Competing in a 4-year competition sponsored by General Motors and hosted by the Society of Automotive Engineers (SAE).
- Implemented an image annotation workflow to streamline creation of high-quality model training dataset.
- Researching and developing an autonomous vehicle lane detection model.

Project Manager, QMIND – Queen's AI Hub, Kingston ON **Apr 2020 – Apr 2021**

- Worked with Vennify Inc. and managed a team of developers to create a Python library which acted as a higher-level abstraction on top of generic Tensorflow-based recommendation systems.
- Conducted hiring, headed regular team meetings, developed a project outline, and executed on project goals.
- Authored a corresponding project paper which was published at the Canadian Undergraduate Conference on AI (CUCAI).

Software Developer, QMIND – Queen's AI Hub, Kingston ON **Sept 2019 – Apr 2020**

- Worked with Deloitte Applied Innovations Team to develop a model to tag on-screen elements in Formula One broadcasts.
- Achieved a test accuracy of 76% in determining which teams were visible in each frame by leveraging Python, OpenCV, and Darknet to train a YOLOv3 model.
- Annotated broadcasts were leveraged by Deloitte EmotionPlus product to quantitatively correlate on-screen elements against the viewer's engagement and emotional response.

INTERESTS

- 4 Years with *Queen's University Varsity Cycling Team* – Alfie Pierce Male Rookie of the Year Nominee
- 1 Year on Race Team for Bateman's Bicycle Company – training 12+ hours weekly
- 2019 Ontario Collegiate Mountain Bike Race Series – Overall Individual and Team Champion

EDUCATION

Mathematics and Engineering – Computing Option (BASc), Queen's University, Kingston, ON **Sept 2018 – Apr 2022**

- 3.54/4.30 GPA, Dean's Scholar, Queen's University Excellence Scholarship ($2000)
- Courses include Information Theory, Operating Systems, Databases, Data Structures, Algorithms, OOP in Java, ML/DL
- Writing undergraduate thesis about *Improving facial recognition accuracy by application of mathematical methods.*