PETAR PRZULJ

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EDUCATION

Bachelor of Applied Science & Engineering, University of Toronto **2020 – 2025 (expected)**
Major in Engineering Science – Machine Intelligence + PEY Co-op (12 - 16 months)

- **Relevant Courses:** Computer Algorithms and Data Structures, Digital and Computer Systems, Engineering Design, Probability and Statistics, Matrix Algebra and Optimization, Foundations of Computing, Systems Software, Computer Security, Artificial Intelligence, Natural Language Processing, Software and Neural Nets.

SKILLS

- **Coding Languages:** Python, C, MATLAB, C++, Java, HTML, ARM Assembly, Bash.
- **Technical Skills**: Git, UNIX, SolidWorks CAD, ModelSim, Quartus, Office Suite.
- **Professional:** Problem-solving, works well under pressure, team player, effective communication, leadership.

WORK & PROJECT EXPERIENCE

Radar Research Assistant at D.R.D.C. (PEY Co-op) **May 2023 – Aug. 2024**

- Created, implemented and improved 20+ radar task scheduling algorithms using MATLAB and Python. Algorithms ranged from simple heuristic-based algorithms to deep reinforcement learning agents.
- Wrote scientific reports on 4 algorithms that improved upon previous scheduling algorithms in both cost and time.
- Researched and wrote a paper for a scheduling algorithm published for the "2024 IEEE Radar Conference." The algorithm improved on a previous version; the new version accrued half the original costs while running 7x faster.

Neural Network to Classify Google Street View Images to a Location **Winter 2023**

- Collected 100,000 Street View images using Google's "Street View Static API."
- Applied k-means clustering algorithm to create custom classifications based on the density of Street View locations.
- Used PyTorch to train and tune hyperparameters for a convolutional neural network with residuals (ResNet101) to classify Street View images to a cluster with a 7x greater accuracy than random guessing.

Recycling of PET Bottles in Ghana, Engineering Design Project **Winter 2022**

- Along with 4 other classmates, learned key engineering skills such as 3D modeling and printing, working with microcontrollers and motors.
- Contacted a stakeholder in Ghana to create and research a method of recycling PET bottles for construction use.
- Our final design took long thin strips of PET bottles and weaved them together to create a strong rope for use in construction using either an automated machine or a hand crank.

VOLUNTEER & CO-CURRICULAR ACTIVITIES

University of Toronto Hearthstone Esports Team Member **Fall 2021**

- In a team of 3, calculated odds and matchup win rates to decide what card decks we prepare.

Michael Power Winds Ensemble Conductor **Fall 2019 – Winter 2020**

- Conducted, and played in Michael Power's first winds ensemble.

ACCOMPLISHMENTS AND AWARDS

University of Toronto – President's Scholars of Excellence Program Scholarship **Sept 2020**

- $10,000 scholarship. "150 of the most highly qualified students applying to first year of direct-entry, undergraduate studies will be distinguished as President's Scholars of Excellence."

University of Waterloo – Canadian Computing Competition Certificate of Distinction **June 2020**

- Received for achieving a score in the Canadian Computing Competition higher than a set margin.

Michael Power - Governor General Award **June 2020**

- $1,000 award. Received for having the highest average in grades 11 and 12.