YANQING WU

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EDUCATION

University of Alberta · *Edmonton, Canada* Expected Sep. 2022 - Aug. 2024
Candidate for Master of Science in Computing Science
Supervisors: Randy Goebel, Hengshuai Yao

Technische Universiteit Delft · *Delft, Netherlands* Sep. 2019 - Jan. 2020
Exchange, Computer Science and Engineering

University of Waterloo · *Waterloo, Canada* Sep. 2016 - Jun. 2021
Bachelor of Applied Science in Computer Engineering (Five-year Honours, Co-operative Program)
Graduated with Distinction

RESEARCH EXPERIENCE

Graduate Research Assistant · *University of Alberta* · *Edmonton, AB* Sept. 2022 - Pres.
· Developing a reinforcement learning pipeline on welding task for real-world robotic arms
· Supervisors: Randy Goebel, Hengshuai Yao

Undergraduate Research Assistant · *University of Waterloo* · *Waterloo, ON* May - Nov. 2018
· Explored a CNN-LSTM model with MATLAB to predict gait freeze in Parkinson's disease
· Extracted features in multivariate time series data from wearable acceleration sensors
· Supervisor: Arash Arami

TEACHING EXPERIENCE

Graduate Teaching Assistant · *University of Alberta* · *Edmonton, AB* Aug. - Sept. 2022
· CMPUT 174 Introduction to the Foundations of Computation I (1,000+ students enrolled)

PROFESSIONAL EXPERIENCE

Viwistar · *Research Engineer* · *Vancouver, BC* May 2021 - Aug. 2022
· Prototyped co-simulation environment for reinforcement learning in CoppeliaSim and ABB RobotStudio
· Experimented PPO and SAC algorithms for high-dimensional, continuous action space tasks
· Developed client GUI application, from scratch, with C++, Qt, OpenCASCADE and VTK

IBM · *Extreme Blue Intern* · *Toronto, ON* May - Aug. 2019
· Prototyped a pipeline to validate database connection profiles, reducing processing time from days to hours
· Explored classification models and feature embedding techniques with Keras and Sklearn, achieving 92%+ prediction accuracy
· Pitched our technical and business solution to a panel of IBM executives at New York Expo

NXP Semiconductors · *Embedded Vision & Deep Learning Co-op* · *Ottawa, ON* Sep. - Dec. 2018
· Optimized S32V on-board Advanced Driver-Assistance Systems (ADAS) APIs in C++, speeding up 200%+
· Extended a cross-platform GUI with JavaScript to support editing neural network sub-graphs and layer attributes
· Reviewed 50+ papers and presented promising semantic segmentation models to project leaders

· Investigated, trained and evaluated BiSeNet

Huawei, Noah's Ark Lab · *Self-driving Simulation Co-op* · *Toronto, ON*   Jan. - Apr. 2018
· Designed and developed a real-world roadmap based scenario generator in Python, speeding up the training process of self-driving agents
· Maintained and developed features for the team-wise used simulator using Python and C++
· Contributed to the *paper* (**NIPS 2018 MLITS**), including literature review and simulation development

University of Waterloo · *Software Engineering Co-op* · *Waterloo, ON*   May - Aug. 2017
· Worked with the founding teams of two startups in the BETS Program: prototyped ROI model at *Deep-Subconscious* and developed BLE beacons app at *Ethica*

PUBLICATIONS

Technical Report	**Yanqing Wu***, Jonguk Lee*, Yixuan Pan*, Zhengyin Jiang*, David Wang (2021). BobaTron: Bubble Tea Self Serving Machine. *Undergraduate Capstone Project Report*, Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, Canada
Technical Report	Pablo Nazé*, Claire Dalkie*, **Yanqing Wu***, Alastair Lewis*, Daniel Nguyen, Devan Shah, Luis Casco-Arias, Mokhtar Kandil, Larry Lindsay, Walid Rjaibi (2019). The intelligent profile analyzer that identifies safe connections. *Project Report at IBM*, IBM Canada Software Lab, Toronto, Canada
Technical Report	**Yanqing Wu** (2019). Selecting Semantic Segmentation Neural Networks for Embedded Devices. *Work Term Report at NXP Semiconductors*, Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, Canada

HONOURS AND AWARDS

2022-Pres.	Mitacs, Accelerate Program Intern
2022	University of Alberta, Full Master's Funding
2021	University of Waterloo, ECE Capstone Symposium Award **(Best Design)**
2018	University of Waterloo, International Tuition Grant
2018	University of Waterloo, Undergraduate Research Assistantship Award
2017	University Rover Challenge, World Final, 15th place
2016	University of Waterloo, President's Scholarship

PROFESSIONAL AFFILIATION

2022-Pres.	Student, Alberta Machine Intelligence Institute (Amii)

COMMUNITY INVOLVEMENT

2022-Pres.	**Vice-President of Operations**, Computing Science Graduate Students' Association
2021	**Automotive Team Member**, UWaterloo EcoCAR (UWAFT) Team
2020-2021	**Wellness Representative**, Department of Electrical and Computer Engineering
2020-2021	**Academic Representative**, Department of Electrical and Computer Engineering
2017	**Power Forward**, Intramural Basketball
2016-2017	**Autonomous Team Member**, UW Robotics Team
2016	**Event Assistant**, Hack the North
2016	**Judge Assistant**, FIRST Robotics Canada

EXTRACURRICULAR EDUCATION

Coursera · online   Jan. 2018 - Pres.

· Stanford University, Andrew Ng, Machine Learning
· Stanford University, Andrew Ng, Deep Learning Specialization (6 courses)
· Northwestern University, Kevin Lynch, Modern Robotics

SELECTED SKILLS

Software	Python, C++, C, Bash, Lua, JavaScript, MATLAB, Simulink, Scala, Spark, Flink, MySQL
Operating Systems	Ubuntu, Arch, Windows, macOS, Android, iOS
Tools	Linux, ROS, Git, Vim, Qt/PyQt, TensorFlow, Pandas, OpenCV, LaTeX
Hardware	Arduino, NXP S32V, ESP8266, HX711, soldering, drilling

ADDITIONALS

Hobbies	pencil sketching, basketball, bodyweight training, StarCraft, chromatic harmonica
Languages	Mandarin (native), English (bilingual)

REFERENCES

David Wang, Ph.D.

Professor, Department of Electrical and Computer Engineering, University of Waterloo

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Relationship: Capstone Project Advisor, Professor

Yunfei Zhang, Ph.D.

Co-Founder & CEO, Viwistar

XingDongZhongLi A14, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China, 518101

yunfei.zhang@viwistar.com

Relationship: Supervisor, Employer

Peyman Yadmellat, Ph.D.

Staff Research Engineer, Huawei

19 Allstate Pkwy, Markham, ON, Canada L3R 5A4

peyman.yadmellat@huawei.com

Relationship: Mentor