CHRIS AGIA

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https://agiachris.github.io/

EDUCATION

BASc. in Engineering Science - Robotics, Artificial Intelligence

(exp.) May 2021

University of Toronto - Adviser: Florian Shkurti

Relevant Coursework: Robotics, Deep Learning, Graph Representation Learning, Probabilistic Learning & Reasoning, Control Systems, Robot Vision, Algorithms & Data Structures, Linear Algebra, Calculus

EXPERIENCE

Vector Institute & University of Toronto

Toronto, ON

Researcher at the Robot Vision and Learning Lab advised by Florian Shkurti

May20 - Present

Topics: learning to plan (task & motion), graph neural networks, reinforcement learning, attention representations

Google, Cloud

San Francisco, CA May20 - Aug20

Software Engineering Intern building ABI simulators with the Istio Networking Team

Montreal, QC

Research Intern at the Mobile Robotics Lab co-supervised by <u>Gregory Dudek</u> and <u>David Meger</u>

Montreal, QC

Topics: unsupposited learning of doubt and motion visual SLAM (direct methods), rainforcement learning

Jan20 - May20

Topics: unsupervised learning of depth and motion, visual SLAM (direct methods), reinforcement learning

Noah's Ark Lab, Huawei Canada

Mila & McGill University

Markham, ON

Deep Learning Research Intern on the Perception and Localization Team with <u>Bingbing Liu</u>

May19 - May20

Topics: 3D scene understanding, semantic SLAM, road estimation, multi-view / multi-modal fusion

aUToronto - UofT AutoDrive Group

Toronto, ON

Autonomy Engineer developing deep learning pipelines with the Object Detection Team

Aug19 - May20

University of Toronto Robotics Institute

Toronto, ON

Research Intern at the Autonomous Systems and Biomech. Lab supervised by <u>Goldie Nejat</u>

May18 - Aug18

Topics: reinforcement learning, transfer learning (sim2real), autonomous robot navigation

SELECTED PUBLICATIONS

- [1] **C. Agia**, R. Cheng, D. Meger, F. Shkurti, G. Dudek, "Attention-based Representations in Deep Reinforcement Learning for Autonomous Driving," Paper under review, 2021
- [2] **C. Agia**, R. Cheng, Y. Ren, B. Liu, "S3CNet: A Sparse Semantic Scene Completion Network for LiDAR Point Clouds," Conference on Robot Learning (CoRL), Massachusetts, BOS, US, 2020
- [3] Y. Ren, R. Cheng, **C. Agia**, B. Liu, "Lightweight Semantic-aided Localization with Spinning LiDAR Sensor," Manuscript under review at IEEE Transactions on Intelligent Vehicles (T-IV), 2020
- [4] R. Cheng, **C. Agia**, D. Meger, G. Dudek, "Depth Prediction for Monocular Direct Visual Odometry," IEEE 17th Conference on Computer and Robot Vision (CRV), Ottawa, ON, Canada, 2020

HONOURS / AWARDS

Dean's Honour List, 2018-2020

1st Place Programming, Ontario Engineering Competition (\$2500), 2019

1st Place Programming, University of Toronto Engineering Competition, 2019

NSERC Undergraduate Student Research Award (\$6000), 2018

3rd/50 Place, Engineering Science Robotics Competition, 2018

President's Scholarship Program (\$6000), 2016

SKILLS

Languages (*Proficient*) Python, Rust, C/C++, MATLAB, LaTeX - (*Working*) Java, Assembly, Bash Software Tools Git, Linux/Unix, Docker, Wasmtime (WebAssembly), Kubernetes Libraries PyTorch, TensorFlow, ROS, NumPy, PCL, OpenCV, SciPy, scikit-learn, Pandas, Jupyter