

ARTHUR ALLSHIRE

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TECHNICAL KNOWLEDGE

Computer Languages	Experienced with Python, proficient in C++, C, Javascript
Control Systems	PID, (linear/extended/unscented) Kalman filters, State Machines, ROS, state-space control, fuzzy controllers, controller tuning.
Machine Learning	Standard frameworks / methods - PyTorch, scikit-learn, Pandas
Tools	Understanding of deep learning - CNNs, RNNs, Transformers, RL UNIX, git, vim, Google Cloud Platform, D3JS

EXPERIENCE

Flatten (Not for Profit Organisation) March 2020-
Co-Founder and Head of Technology *Toronto, Ontario*

- Syndromic surveillance of COVID-19 in Canada, and in Mogadishu (partnership with **Somalia government**). Technical leadership on Backend, Cloud, and Data. Helping scale to over 400,000 users. Forged partnership and also **intern at Loblaw Digital**, who are providing support on Flatten work.

aUToronto January 2020-
Mapping and Localisation Team Member *Toronto, Ontario*

- At aUToronto, the University of Toronto's SAE Autodrive self-driving design team. Working on integration of Deep Learning into localisation pipeline and converting map formats.

DRVN Intelligence, Inc Spring/Summer 2019
Data Science Engineer Intern *Toronto, Ontario*

- Created ML system to predict customer conversion propensity financial institution client. Migrated data pipelines of telco. to Google Cloud Platform. Designed architecture for GCP-based machine learning system for proposal to real estate client.

Australian Centre for Field Robotics, University of Sydney Australian Summer 2017-18
Intern, Intelligent Transportation Systems Group *Sydney, Australia*

- Ported RSLidar ROS C++ code to be cross-compatible with Velodyne LIDAR drivers. Wrote fuzzy speed controller ROS node to improve speed control on Autonomous Electric Vehicles.

FRC Team #4774, The Drop Bears 2014-18
Member, Software Lead, and Vice Captain *University of Sydney, Sydney, Australia*

- Vice Captain: management of team activities, production and development timelines. Head of Software, co-ordinated development of software, curricula for new members, overall software architecture, testing.
- Implementing current research and coming up with new approaches to allow for novel control & localization solutions aboard compute-constrained robot under regulations.

EDUCATION

University of Toronto *September 2019 - present*
Pursuing B.ASc. in Engineering Science.

Higher School Certificate, Redlands, Sydney, NSW, Australia *December 2018*
Valedictorian; School graduation awards for top student in Mathematics, Physics, and Chemistry
ATAR: 99.25 ¹

¹The Australian grading scale corresponds to a percentile within the state cohort.