

# Denis Trailin

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| EDUCATION       | <b>University of British Columbia</b> , Vancouver, British Columbia<br>Bachelor of Science (B.Sc) in Computer Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sep 2014 – May 2019                                                                                                                                           |
| WORK EXPERIENCE | <b>Argo AI</b> , Remote (Vancouver, British Columbia)<br><i>Motion Planning - Software Engineer</i> <ul style="list-style-type: none"><li>▪ Contributed to the C++ motion planning code as part of the remote guidance and trajectory selection team</li><li>▪ Added remote guidance detectors using motion planning and prediction data to call relevant remote guidance when the autonomous vehicle is impeded by obstacles such as an emergency vehicle, a road closed sign, or vegetation</li><li>▪ Implemented remote guidance commands to allow remote operators to handle situations like false positive emergency vehicle detection and incorrect lane blockage detection</li><li>▪ Triaged trip segment failures when using remote guidance and created recommendations to trajectories and guidance</li></ul> <b>Microsoft</b> , Redmond, Washington<br><i>Azure Service Fabric - Software Engineer</i> <ul style="list-style-type: none"><li>▪ Worked on Service Fabric, a cluster orchestrator used by thousands of services across Microsoft, on the underlying distributed transactional key-value store</li><li>▪ Improved the 50th percentile write performance core disk logging systems used by 4x</li><li>▪ Maintained the C# and C++ implementations of the replicator used in Service Fabric</li><li>▪ Supported internal and external teams as an on-call engineer resolving incidents related to cluster and replica management</li></ul> <b>Microsoft</b> , Redmond, Washington<br><i>Azure Service Fabric - Software Engineering Intern</i> <ul style="list-style-type: none"><li>▪ Increased developer visibility on excessive tracing in Service Fabric, a major problem impacting production observability</li><li>▪ Built an extendable and configurable tool using C# to run simulated Service Fabric loads</li><li>▪ Created tests to detect increases in tracing across builds by measuring statistical deviation from a baseline</li></ul> <b>Bloomberg LP</b> , New York City, New York<br><i>Feeds Distribution Infrastructure - Software Engineering Intern</i> <ul style="list-style-type: none"><li>▪ Fixed major point of failure for real time news feeds while keeping the system high performance and backwards compatible</li><li>▪ Updated distributed uniqueness checking server written in C++ to use an arbitrary number of nodes instead of the previous limit of two</li><li>▪ Implemented dynamic leadership switching and leadership elections to the uniqueness server using Apache Zookeeper</li></ul> <b>Hootsuite</b> , Vancouver, British Columbia<br><i>Android Team - Co-op Software Developer</i> <ul style="list-style-type: none"><li>▪ Supported transition from Java to Kotlin as main Android programming language</li><li>▪ Worked with other team members to push out critical features such as YouTube streams, Publisher approval streams, and re-auth for the core app</li><li>▪ Published 2 blog posts for the official Hootsuite engineering blog on unit testing with RxJava <a href="#">↗</a> and Kotlin <a href="#">↗</a></li></ul> <b>University of British Columbia</b> , Vancouver, British Columbia<br><i>Teaching Assistant</i> <ul style="list-style-type: none"><li>▪ Taught CPSC 213, Introduction to Computer Systems, a course focused on C and assembly</li><li>▪ Led labs of 30 students, graded assignments, and invigilated exams</li></ul> <b>Trace Intelligent Systems</b> , Calgary, Alberta<br><i>Contractor</i> <ul style="list-style-type: none"><li>▪ Integrated existing open-source object tracking C++ libraries into a common framework for deployment to drones and tripod based cameras</li><li>▪ Ran experiments to analyze the performance and accuracy profiling of vision tracking algorithms</li></ul> | Jun 2022 – Nov 2022<br>Jul 2019 – Jun 2022<br>Jun 2018 – Aug 2018<br>May 2017 – Jul 2017<br>Jan 2016 – Aug 2016<br>Jan 2017 – Dec 2017<br>Jul 2015 – Aug 2015 |
| PROJECTS        | <b>UBC Sailbot</b> , Vancouver, British Columbia <ul style="list-style-type: none"><li>▪ Worked on autonomous sailboat that broke the record for farthest autonomous crossing of Atlantic</li><li>▪ Built obstacle detection software for thermal cameras using computer vision and machine learning in C++</li><li>▪ Created microservice for satellite boat communication in JavaScript using Node.js</li><li>▪ Started design and development on the next generation motion planning code in Python using OMPL</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sep 2015 – May 2019                                                                                                                                           |