

# Nathan Lam

Professional Portfolio: [nathan-lam.com](http://nathan-lam.com)  
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<b>Education</b>	<b>B.S., Computer Engineering</b> University of Hawaii at Manoa, May 2018	GPA: 3.87
<b>Work Experience</b>	<b>Booz Allen Hamilton</b>   Summer Games Cyber Intern <ul style="list-style-type: none"><li>Designed a proof-of-concept system based on blockchain technology to define trust relationships through vehicle-to-vehicle communications.</li><li>Developed autonomous robotic cars using Python, LIDAR, and the ZigBee wireless protocol capable of relaying traffic information to surrounding vehicles for collective decision-making.</li><li>Simulated successful high-trust communications protocol and autonomous resilience against the injection of malicious inputs by rouge actors.</li><li>Placed 3<sup>rd</sup> out of 76 teams and secured \$195,000 in additional research funding.</li></ul> <b>University of Hawaii at Manoa</b>   Undergraduate Teaching Assistant <ul style="list-style-type: none"><li>Facilitated object-oriented programming course in C++ through weekly labs and assignments for 26 students.</li></ul> <b>Spectrum Photonics Inc.</b>   Software Engineer Intern	May 2017 - Aug 2017 Jan 2017 - May 2017 May 2016 - Aug 2016
<b>Project Experience</b>	<b>Micromouse</b>   Lead Embedded Firmware Developer <ul style="list-style-type: none"><li>Designed and built an autonomous self-contained robotic vehicle capable of navigating through a previously unknown maze with the shortest time and path.</li><li>Implemented adaptive intelligence through positional/velocity controllers and a modified Flood Fill algorithm to reliably find the optimal route to the center of a maze.</li><li>Won 2<sup>nd</sup> at the IEEE Region 6 Central Area Micromouse competition.</li></ul> <b>REIS Sensing and Monitoring</b>   Lead Software Developer <ul style="list-style-type: none"><li>Designed and implemented a dashboard for a highly distributed weather sensor network to analyze solar irradiance, pressure, humidity, and temperature patterns.</li><li>Maintained data collection and storage infrastructure.</li></ul> <b>TextBuddy Android App</b>   Software Developer <ul style="list-style-type: none"><li>Built application using Optical Character Recognition (OCR) technology to convert scanned text captured by a camera into a digital format.</li></ul> <b>Smart Campus Energy Lab</b>   Embedded Firmware Developer <ul style="list-style-type: none"><li>Designed and programmed a low-cost, accurate, and reliable prototype weatherbox using environmental sensor modules to forecast weather patterns.</li></ul> <b>Liquid-Metal Electronics</b>   Firmware Developer <ul style="list-style-type: none"><li>Implemented continuous electrowetting automation and precise positional control for reconfigurable electronic devices using Galinstan.</li><li>Eliminated manual actuation requirement and improved RF device prototyping.</li></ul>	Aug 2017 - May 2018 Aug 2016 - Dec 2017 Aug 2016 - Dec 2016 Spring 2016 Spring 2016
<b>Skills</b>	<b>Programming:</b> C, C++, Python, HTML, CSS, Java, JavaScript <b>Toolsets/Frameworks:</b> Git, Django, Semantic UI, Jekyll, Vim, Eclipse, Cygwin, IntelliJ, Linux <b>Tech Management:</b> Agile, Scrum	
<b>Activities</b>	<b>Webmaster</b> , IEEE-Eta Kappa Nu (HKN) Honor Society, UH Manoa <b>Treasurer</b> , IEEE Student Branch, UH Manoa	Aug 2017 - May 2018 Aug 2017 - May 2018