ALEXANDER BOLINSKY

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TECHNICAL STRENGTHS

Languages	English (native), Japanese (JLPT N2, self-taught)
Programming Languages	C++, C, Python, JavaScript, x86 assembly, Verilog, VHDL
Tools	Linux, ROS, ALICA, Git, Docker, CI/CD, TTD, GDB, CMake, CAD, 3D Printing

TECH EDUCATION, ENGINEERING & RESEARCH EXPERIENCE

Tokyo Coding Club May 2021 - current
Operations Manager, Curriculum Developer, Instructor - Programming and Robotics *Tokyo, Japan*

- Manage a team of instructors.
- Oversee development and prioritization of technical features of our in-house lesson management system.
- Develop and roll out a comprehensive quality assurance system to significantly improve teaching quality.
- Create and roll out curriculum and instructor training for a summer program for over 120 kids. Helped to grow the summer camp program 91% YOY.
- Conduct over 700 hours of private robotics and programming lessons for kids aged 7-14 and adults. Handcraft material and curriculum based on the sophistication and interests of the student, agnostic of language, platform, or hardware requirements.

Rapyuta Robotics February 2018 - April 2021
Software Engineer *Tokyo, Japan*

- One of the core engineers and maintainers of critical components of an autonomous warehouse robot fleet. Developing the robots' general and contextual behaviors, state machine, interactions with other ROS components and UI. Developed several small libraries for system resource management, playing audio, processing barcodes, etc. Heavily involved in the preparation, oversight, and debugging of the system in high-pressure contexts such as critical client demonstrations. Overseeing general design with respect to user interaction. Providing frequent rigorous and constructive code reviews of colleagues' work and thorough documentation of my own.
- Primary software engineer in developing an autonomous team of omni wheel and vive tracker-equipped robots that collaborate in gathering cubes from the environment and stacking them into a tower. Collaboration and robust team dynamics were achieved using ALICA (open source, contributor). Presented at iROS 2018.

LockerDome June 2016 - July 2017
Web Developer *St. Louis, MO, USA*

- Developed and tested a custom high-performance database. This involved a detailed understanding of Linux and its system calls, the memory and caching hierarchy, hand-coding architecture-specific x86 assembly, implementing a custom memory manager, asynchronous socket programming, data (de)serialization, and heavy unit testing and profiling. Additionally worked on static type-checking for a front-end javascript framework compiler, implemented a lexer/parser for formatting articles, contributed to the api layer, and connected our ad server with publishing clients.

Institute of Electronics & Electrical Engineers Student Branch February 2014 - May 2016
Co-President & Treasurer *St. Louis, MO, USA*

- Designed and built a force/haptic feedback glove prototype for virtual reality applications. Designed and constructed a "Segway" that utilizes a 9 DOF IMU sensor, an Arduino, and filter and error algorithms for self balancing. Collaborated with several members on projects involving developing for the Oculus Rift, hardware and software design and construction, and 3D printing.

EDUCATION

Washington University in St. Louis 2012 - 2016
B.S. in Computer Science & Engineering

Leadership
Judge at GlobalHack VI Million-Dollar Hackathon (2016)
IEEE · Co-President & Treasurer of Student Branch (2014 - 2016)
Men's Squash Team · Co-Captain, Named Harrow Squash Player of the Men's National Championship Team (2014)

Awards
Third Place at Discovery Competition at Washington University in St. Louis (2017)
Top College Team at GlobalHack V Hackathon (2015)