Michal Adamkiewicz

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Education

Sept 2016 -	Stanford University Class of 2020, Electrical Engineering BS (GPA: 3.91) + MS (GPA: 3.94). Classes Include: Modern Physics (A+, A+), CS107E Computer systems (A+), Statistical Mechanics (A, A+), AA203 Optimal Control (A+)

Experience

IPRL and MSL Stanford Labs	May 2021 - Current - As part of a Stanford lab working towards novel environment representations for robotic navigation and manipulation. Recently accepted work to RA-L and ICRA 2022 https://mikh3x4.github.io/nerf-navigation/
Windborne Systems	July 2020 - March 2021 and Summer 2019 - First employee at climate data startup. Worked on flight hardware and designed manufacturing/launch tools and procedures. As the only engineer responsible for a balloon autolauncher robot, developed its mechanical, electrical and software design from scratch.
R2Air	Summer 2018 - Worked on flight software system for a crewed autonomous aircraft. Wrote system code that effected the entire system, prototyped the radio communication system and worked to characterise inertial measurement sensors
Nvidia	Summer 2017 - Interned in the fast kernels group as a deep Learning Architect, analysing performance and optimising deep learning kernels in assembly
Cantab Capital Partners	Summer 2016 - Internship at systematic hedge fund in Cambridge, UK. Worked as a programer on static code analysis and system visualisation tools in Python
Research at UC Berkeley	Summer 2015 - Researched Cryogenic 3D printing. This resulted in a paper in Journal of Cryobiology [Volume 71, Issue 3], a pending patent [US20180304537]

Projects

Stanford Robotics Club	Club President - Completely restructured the club, overseeing 4 project teams, organising events, recruitment. Initiator and co-lead of Rover team that won 3rd place internationally and 1st in the US in the University Rover Challenge 2019 having designed and built an all terrain robot with a 6 axis manipulator.
Stanford Space Initiative	Community Manager of the student run club, worked on the embedded code of endurance record breaking high altitude balloon (Valbal). Over summer 2017 designed the mechanical structure of an optical communication cubesat
Processor	Designed from scratch and built an 8bit processor from ~700 discrete SMD transistors to teach myself about digital design and to experience old-school computer programming. Write up is available at www.adamkiewi.cz/ucpu
Coding	Personal projects include a graph based lidar SLAM, a lightweight robotics communications library, game players for minesweeper and 2048, barebones OS on baremetal Raspberry Pi, an amateur liquid rocket monitoring interface etc
Hardware	Projects include: robotic arms, 3D printers (RepRap and my own design), various mechanical puzzles, holonomic couch, telepresence robot, educational kits

Skills and Interests

Engineering	Solidworks and Autodesk Fusion 360 (including FEA simulations and CAM), AutoCAD, Design for 3D printing and laser/waterjet cutting, CNC machining; Digital Circuit and PCB design: Altium, KiCAD; Mechatronic system design
Maths	Intuitive and formal high level understandings of mathematics including vector calculus, linear algebra, probability, number theory, differential equations
Computer Science	Python (including popular external libraries: numpy, matplotlib and PyTorch), C/C++, Verilog, ARM Assembly, Julia, Matlab. Comfortable with linux, ROS, Git