Matthew Krenik

Engineer and Developer

US Citizen

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About me

I am an entrepreneurial-minded engineer with 7 years of professional experience in hardware and software development. I enjoy working on startups and products that create significant value. In my free time, I enjoy playing piano, basketball, mountain biking, rock climbing, and skiing.

Skills

Software:
Top: C, C++, Linux, IoT
Mid: Android, OpenCV, Javascript
Low: Python, C#, MATLAB

Electrical:
MCUs, Analog / Digital circuit design, Motor control, EDA Tools (KiCAD, Altium), Soldering

Mechanical:
3D modeling (Solidworks), MIG welding, Wood/metal shop eqpmt.

See website and CV for more details

work experience

2018-2020 **Popspots —Sr. Embedded Engineer & Hardware Lead**
Project managed two new HW products from start to finish
- Found, vetted, and worked with HW suppliers/ manufacturers
- Reviewed ME/EE designs and brought designs in house
- Developed PRD and MRD, and supervised NPI and MP builds
Designed and implemented embedded SW and IoT architecture
- Reduced provision time by 85% and increased reliability by 50%

2016-2018 **iRobot —Robotics Software Engineer**
Supervised assembly line sensor calibration and test software
Wrote new robot navigation test, improving code coverage to 80%
Worked on features/bugs for robot path planning and state

2012-2015 **Vertice Incorporated —Founder**
Invented a smart, position-aware hair clipper
Wrote and filed eight patents (granted)
Led a team of four engineers to develop working prototypes
Raised >$60K and had a profitable exit

education

2014-2016 **ETH Zurich** (#7 by QS World Univ. Rankings in 2019)
M.Sc. in Robotics, Systems, and Controls
GPA: 5.76 / 6.0 (Highest distinction)

2011-2013 **University of Texas at Dallas**
B.Sc. in Electrical Engineering
GPA: 3.99 / 4.0 (Summa Cum Laude)
McDermott Fellowship (full tuition, room+board, stipend)
Goldwater Fellowship (nationwide UG research award)

2009-2011 **Texas Academy of Math and Science**
Advanced early college program at University of North Texas
GPA: 4.0 / 4.0

select projects

2016 **Smart Bed Project**
Created bed with sensors and actuators that adapts to user's body pose; modeled system in Simulink and developed optimal control strategies

2015 **Feedback for Real-Walking VR**
Implemented visual, audio, and haptic feedback mechanisms on a real-walking VR system to prevent unplanned user behavior

other experience

2016 **Recurse Center**
Pair prog. SW, comp. vision, and machine learning projects

2015 **ABB —Software Development Intern**
Developed four industrial demos on Oculus and Leap Motion

2014-2015 **JetBrains —Product Ambassador**
Organized events and code challenges to promote SW products

2012 **University of Maine —Research Assistant**
Built a low cost harmonic radar system for detecting wood frogs