Matthew Krenik

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Education

ETH Zurich *(#8 eng. school in the world)* 2014 – 2016
Masters in Robotics, Systems, and Controls; GPA: 5.76/6.0 (highest distinction) *Zurich, Switzerland*

University of Texas Dallas 2011 – 2013
Bachelors in Electrical Engineering; GPA: 3.99/4.0 (Summa Cum Laude) *Richardson, TX, USA*

Texas Academy of Math and Science 2009 – 2011
Advanced early college program at the University of North Texas; GPA: 4.0/4.0 *Denton, TX, USA*

Work Experience

Robotics Software Engineer 2022 – Present
Apptronik *Austin, TX, USA*

- Working on a humanoid robot. More details to come!

Senior Embedded Engineer and Project Lead 2018 – 2022
Clerk Retail (formerly Popspots) *Austin, TX, USA*

- Project lead for next-gen HW: ID/ME/EE/FW project management and validation, wrote all embedded SW
- Project lead for legacy HW: ECRs, sourcing, assembly line testing, CM relationship management
- Wrote a provisioning system (decreased install times by 80%) and HW issue detection system

Robotics Software Engineer 2016 – 2018
iRobot Corporation *Bedford, MA, USA*

- Wrote behaviors involving trap detection, virtual IR boundaries, and docking on next generation robots
- Developed robot navigation test and maintained sensor calibration and test software for the assembly line

Founder 2012 – 2016
Vertice Incorporated *Garland, TX, USA*

- Invented a position-aware home hair clipper to cut any hairstyle to 1mm precision
- Raised $60K+ in funding, wrote and filed eight granted patents, and had a profitable exit
- Led a team of four eng. students and developed proof of concepts for the cutter and position tracking

Publications, Honors, and Awards

Nine granted patents (see CV for full listing)
Goldwater Scholar: prestigious undergraduate award for excellence in academic research
McDermott Scholar: tuition, housing, books, and stipend for undergraduate studies
3x recipient of the NSF Research Experience for Undergraduates Grant

Select Projects and Experiences

Automated Sleep Support Design and Analysis (thesis): Built a smart bed with sensors and actuators that move slats up and down to conform to a user's body pose; modeled the system using SIMULINK and developed optimal control strategies
Feedback for real-walking VR systems (semester project): Developed a model to predict user behavior and implemented visual, audio, and haptic feedback mechanisms to prevent undesired behavior

Technical Skills, Interests, Etc.

Programming: C++, Python, C, C#, MATLAB
Developer Tools: Git, Linux, Docker, Agile development
Interests: 20+ years playing the piano, cycle touring, spanish fluency