William Makinen

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EDUCATION

Princeton University, Princeton, NJ
Undergraduate, GPA: 3.66
B.S.E. in Electrical and Computer Engineering, Computer Science and Robotics Certificates *Expected June 2022*

EXPERIENCE

E3D-Online, Oxford, UK *Summer 2021*
Intern

- Designed, developed, and tested FDM 3D printing extrusion systems as part of the engineering team.

OPEX Corporation, Moorestown, NJ *Summer 2019 & Summer 2020*
Electrical Engineering Intern

- 2020: Worked in Incoming and Scanning Division on variety of circuit design and embedded systems projects.
- *2019*: Worked in Warehouse Automation Division to streamline and automate final QC process for SSXL iBots.

U.S. Naval Research Laboratory, Washington, DC *Summer 2017 & Summer 2018*
Student Researcher

- *2018:* Experimented with the 3D printing of technical ceramics as an alternative fabrication method to previous year's work.
- *2017:* Worked in Optical Sciences division with Dr. Woohong (Rick) Kim to construct a binder-jetter 3D printer capable of forming technical ceramics into complex shapes.

Intel International Science and Engineering Fair (ISEF), Pittsburgh, PA and Los Angeles, CA
Award Winner *May 2017*

- Developed fully autonomous system for detecting and correcting errors during the 3D printing process. Received 4th place in Engineering and Mechanics category at international fair.
- **US Patent Application Granted:** US Patent No. 11,084,091.

Participant *March 2016*

- Built autonomous, computer vision-controlled object collection robot to seek out and collect designated objects in a room. Intended to help the disabled keep homes clean and safe. Placed 2nd at regional fair.

Finalist *May 2015*

- Constructed a robotic hand designed to assist with recovery process of temporary forearm injuries (broken radii, etc.). Grand prize at Fairfax County regional fair, finalist at international fair.

Virginia Governor's Mentorship in Engineering, NASA Langley Research Center, Hampton, VA *Summer 2016*
Student Researcher

- Worked with other research engineers on real-time 3D printer characterization research to detect print errors in real time. Work expanded upon for 2017 Intel ISEF project.

ACTIVITIES

Princeton 3D Printing Club *2-4 hours per week*
President

- Rebooted educational club intended to allow both novices and experienced users to explore 3D printing.
- Coordinated workshops to teach 3D printing skills and allow students to become certified on club's 3D printers.

3D Hubs *3-4 hours per week*
Hub Operator

- Print and ship parts submitted by customers through 3DHubs for a fee using personal 3D printer with design services provided as needed.

Princeton Running Club *12-15 hours per week*
Sports Club Executive Council Member, Race Coordinator, Top 7 Competitive Athlete

- Organize and schedule team races; payment, event entries, transportation, and lodging.

SKILLS

Python, C/C++, Java, Verilog, Cadence, CAD (SolidWorks, Inventor), LabView, G-Code, MATLAB, Linux Systems, Oscilloscopes, DMMs, Signal Generators, workshop tools