# William Makinen

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## EDUCATION

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

## EXPERIENCE

**E3D-Online,** Chalgrove, 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 technical ceramic formulations and SLA 3D printing as alternative method.
- *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),** Pittsburg, 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. Grand price at 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 research at NASA Langley Research Center on real-time 3D printer characterization research to detect print errors as they happen. Work expanded upon for 2017 Intel ISEF project.

## ACTIVITIES

**Princeton 3D Printing Club,** Princeton, NJ 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.

**3DHubs** *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.
- Attend daily practices, weekly races, and monthly council meetings.

## SKILLS

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