

# Benjamin Lawrence

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## EDUCATION

### **Duke University class of 2020**

- B.S.E in Electrical and Computer Engineering, B.S. in Mathematics, B.S.E. in Computer Science
- GPA: 3.738/4.000
- Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Operating Systems, Linear Algebra, Probability, Differential Equations, Real Analysis, Topological Data Analysis, Signals and Systems, Microelectronic Devices and Circuits, Algorithms, Digital Systems, Optics and Photonics

## EXPERIENCE

### **Duke University DesignHub Team (June 2018 - Present)**

- Helping design and manufacture hundreds of cable holders to be dispersed across Duke that are 80% cheaper than the ones currently being used which has saved Duke over \$3,500
- Chosen as the team member to teach a class on the Linux OS and RaspberryPi and its applications

### **Duke University Bluesmith Program (June 2018 - Present)**

- Maintain and use the ProJet MJP 3600 Series, Stratasys J750 3D Printer, Ultimaker S5, Gigabot XLT 3+ 3D printer, FormLabs Form 2 printers, and the Mcor IRIS HD paper printer, laser engravers, CNC milling machines, and a water jet cutter
- Uses the tools mentioned above to complete approximately 40 jobs/month for clients with custom parts

### **Duke University Innovation Co-Lab (August 2017 – August 2018)**

- Maintained and used 60 Ultimaker 3D printers including the Ultimaker 2+, Ultimaker 2+ Extended, Ultimaker 3, and Ultimaker S5
- Maintained and used the Epilog Zing and Fusion laser engravers and the Trotec Speedy 400
- Maintained and used the Tormach 770 CNC milling machine and the ShopBot CNC mill
- Taught students and patrons how to 3D print, laser cut, and general machine shop etiquette
- Obtained over 1700 hours of 3D printing experience

## PROJECTS

### **Independent Study**

- Reducing latency time between live video input and HTC Vive VR Headset using Python and C++

### **Facial Recognition Door Lock**

- Used OpenCV with Python to build a facial recognition door lock out of a RaspberryPi and 3D printed parts

## ADDITIONAL INFORMATION

Computer Languages: Java (advanced), Python (proficient), MatLab (proficient), C (familiar), C++ (familiar)

Very knowledgeable with Linux, MacOS, and Windows

Certified to run the Duke Immersive Virtual Environment system (approximately \$1.2 million virtual reality system)

Honors and Awards: Dean's List, Eagle Scout