Matthew Downing

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57 Mozart Apt 2, Jamaica Plain, MA, 02130

Education

Northeastern University, Boston, MA   2017 – 2022

- Candidate for B.S. Computer Engineering, M.S. Computer Engineering (Concentration: Computer Systems and Software), Minor in Political Science
- Cumulative GPA: 3.91, Major GPA: 3.93
- *Relevant Coursework:* High-Performance Computing, Computer Architecture (Grad and Undergrad), Hardware and System Security, VLSI Design, Fundamental of Computer Engineering, Engineering Algorithms, Digital Design and Computer Organization, Networks, Electronics, Embedded Design, Circuits and Signals, Discrete Structures
- *Achievements:* University Honors Program, Eta Kappa Nu Honor Society, Tau Beta Pi Honor Society

Work and Volunteer Experience

- Festo, Billerica, MA (Six Month Co-op)   January – June 2021
  - Prototyped and designed Open Loop Pipette from first prototype to proof of concept
  - Created schematics and PCBs for multiple prototype revisions using Circuit Maker PCB tool
  - Designed and implemented electrical setup for gantry control system
- Twiddy & Company, Duck, NC (Field Services)   Summer 2020
  - Worked on a team of maintenance technicians at over 500 vacation rental homes during the summer solving over 1100 work orders from plumbing to Wi-Fi repair
- Digital Lumens, Division of Osram Licht AG, Boston, MA (Six Month Co-op)   July – December 2019
  - Worked on the hardware development team prototyping projects, solving issues with current and future products, and gaining hands-on hardware experience
  - Led development on a motion sensor project while learning the skills of schematic design, PCB layout, sensor debugging, board buildup, and testing
  - Learned hardware skills including surface mount soldering, reflow techniques, and in-depth oscilloscope and metering
- DuPont de Nemours, Inc., Wilmington, DE (Summer Intern)   Summer 2019
  - Worked on Smart Materials team within R&D group focusing on analyzing sensors for use in embedding within DuPont polymer materials, creating a new pathway for sales
  - Worked on a project prototype shown to DuPont executives as a proof of concept, which expanded my knowledge in Raspberry Pi, Python, Visual Basic, and network data transfer
- Roxbury Robotics, Northeastern University   Fall 2017 – Present
  - Instructed students on robotics and engineering concepts at sites throughout Roxbury
  - Mentored volunteers which involved planning, coordinating with students, and leading volunteers at the site

Technical Skills

- Hardware: PCB design tools including Circuit Maker, Altium, and KiCAD; Soldering down to 0402, QFN, and SOIC components; 3D printing, Arduino, Raspberry Pi
- Software: STN32CubeIDE, C/C++, Python, CAN/SPI/I2C communication protocols, SolidWorks 3D modeling, Arena BOM management