Anthony McNicoll

Multidisciplinary Hardware Engineer

B.S. M.Eng, Cornell '15
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Core Skills

- Circuit Design & Embedded Systems
- Software (Python, C/C++, MATLAB)
- System Architecture and Modeling
- Control Systems, Sensing, and Actuation
- Machine Design - CAD, manufacturing

Secondary Skills

- Web (HTML/CSS, Django, SQL ORMs)
- Rapid Prototyping & Additive Manufacturing
- Communication, Planning & Management
- Mass & Heat Transfer
- ANSYS & FEM

Work Experience

Freelance Hardware Engineer [January 2016 – Present; various]

I deliver a variety of services for my customers, usually PCBA design or Python tools. Clients will tell you I'm responsive, insightful, and professional. Have worked with motion tracking, industrial controls, Bluetooth, wearables, etc. Equipped for hand assembly, rework, and debugging of surface mount designs.

Electrical Engineer [January 2016 – Present; littleBits]

Daily work varied widely between designing PCBA, embedded firmware, and host software. Skills involved are electrical engineering, simulation, embedded software, sourcing & operations, automation, and miscellaneous lab skills.

Hired as a Sustaining Engineer focusing on continuous improvement and support of our products and processes. Later promoted to Electrical Engineer and assumed ownership of our test systems. I assisted with process validation at our overseas contract manufacturer. Very active in system-level architecture and design conversations.

Systems & Sensing Engineer [Summers '14, '15; Empire Robotics]

I was responsible for major aspects of internal test stand development, which required extensive work with embedded systems, communication protocols, and Python. I also head product development for upcoming sensing products, which included mechanical design as well as board design. Interfaced with machine shops and contractors handling assembly tasks.

Research & Projects

Bitblox Assembler Project [Fall 2012 – Spring 2015]

I worked with Rob MacCurdy at Cornell to design a system which automatically assembles his BitBlox, which are a digital material similar to modular electronic "LEGOs". Involved mechanical, electrical, and software design. Second author on paper in Internation Journal of Robotics Research.

Fab@Home FDM Systems [Fall 2011 – Spring 2012]

I designed FDM (Fused Deposition Modeling) tools based on stepper motors for use in the Fab@Home "Model 3" 3D printer. I also designed a suitable build surface for use in ABS printing.