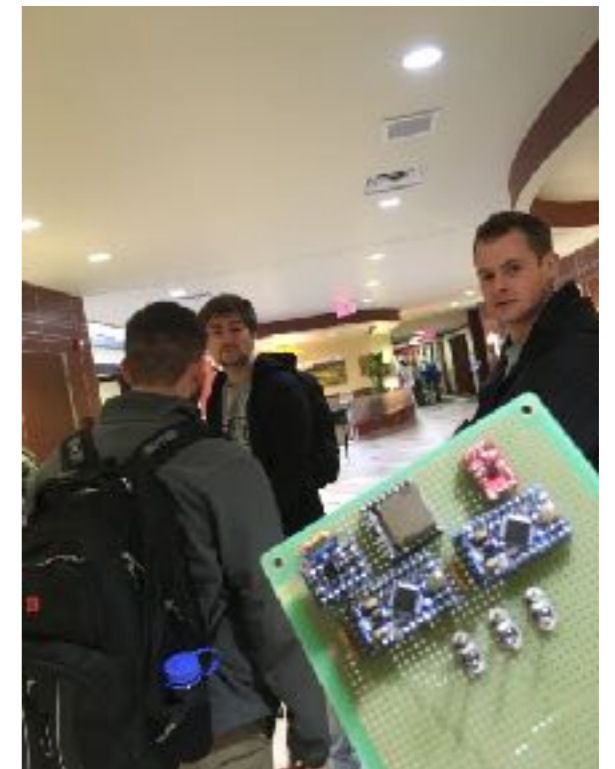
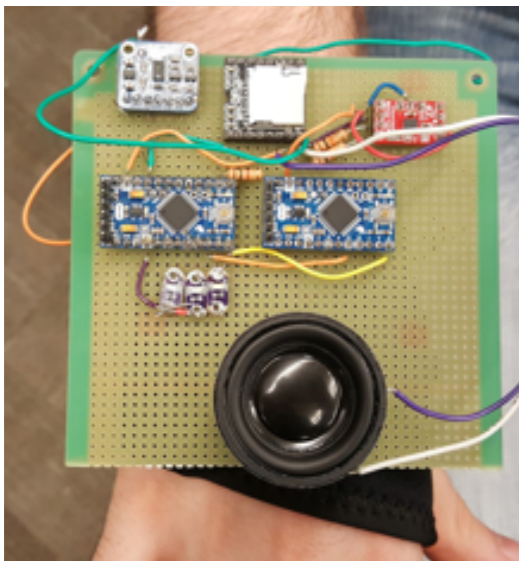
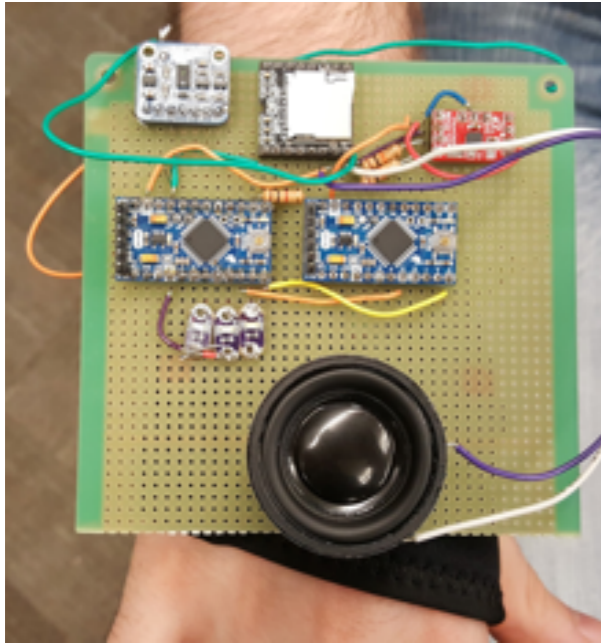


# Portfolio of projects

Michael Urich





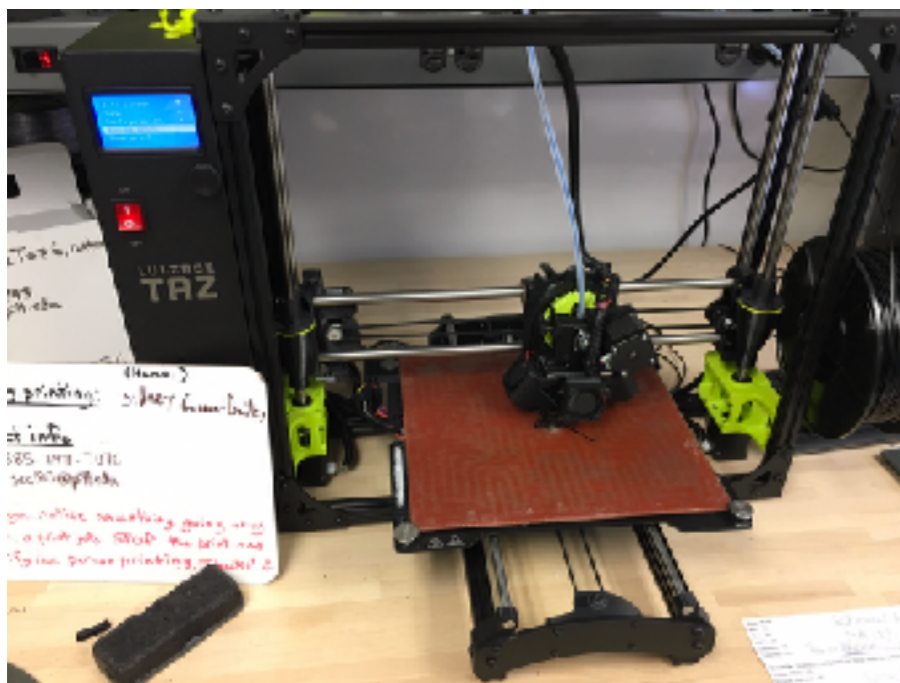
# CPR Glove

- Implemented filters in C
- Custom power delivery circuitry
  - Voltage regulators from 3.7V battery to 3.3v and 5v MCUs
- Time-of-flight sensor to detect distance
- IMU to measure acceleration
- Researched IEEE and FDA standards
- Tested at a hospital on CPR training dummies



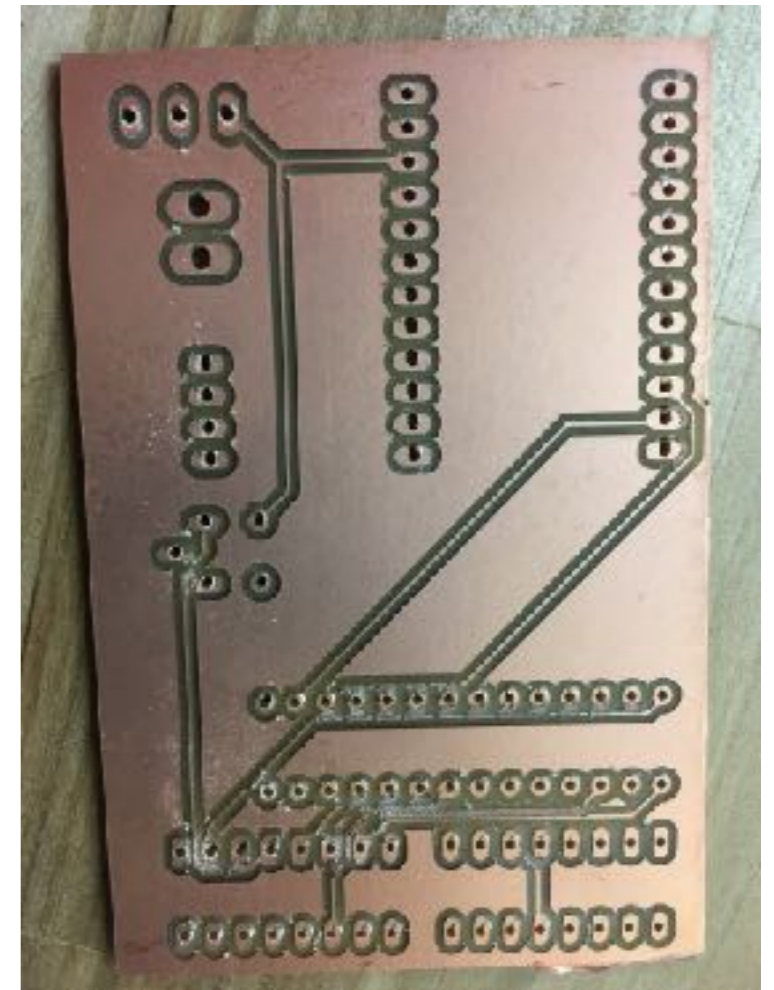
# Bioengineering Makerspace

- **Team of 20 undergrads designed, chose machinery, and constructed workspace**
- **3D printing**
- **CNC mills**
- **Electronics station**
- **Power tools**
- **Prototyping/ideation**



# Othermill Classes

- Taught six courses of ~8 students each in Othermill use and Eagle design + Inkscape SVG conversion
- Wrote materials guide for use on copper/fiberglass PCBs, ABS plastic, acrylics, aluminum, wood
- Designed and printed 10 PCBs for student projects



# Dynastim

- Did electrical circuit design and simulation in PSpice
- Filed university invention disclosure and patent application, learned about patenting process

# Design Hub Team Mentoring

- EEG team
  - Solidworks modeling of a head electrode mount
- A-stim
  - PSpice simulation of circuits
- Web Development
  - Django/Python, Google Cloud Engine hosting

