Brendan Conover

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Education

Northeastern University Boston, MA
Mechanical Engineering BS *Aug 2025-2029*

Experience

Engineering Intern June 2025 – Present
Phoenix Navigation Components *Walpole, MA*

- Created over 25 parts in PTC Onshape
- Drafted over 25 professional engineering drawings for technical documentation and manufacturing
- Created 10 detailed wiring diagrams to support system integration of modern components
- Selected over 10 appropriate modern components for the system to update it to modern standards
- Set up and ran a 3D Printer farm in order to bring additive manufacturing capabilities to PNC

Research Assistant - Combustion Lab January 2026 – Present
Northeastern University *Boston, MA*

- Collected + analyzed data obtained from igniting iron particles to evaluate their use in the iron energy cycle and energy storage
- Designed custom flowpots in PTC Onshape to better collect nanoparticles obtained by igniting iron particles

Northeastern Electric Racing (FSAE) September 2025 – Present
Northeastern University *Boston, MA*

- Designed flex PCB cutouts and segment handles for the battery segments using DS Solidworks
- Designed cart for 300lb battery charger with custom dead man's brake using DS Solidworks

FIRST Robotics Aug. 2021 – June 2025
Walpole Robotics Foundation *Walpole, MA*

- Led the robot prototyping and design using PTC Onshape over many iterations during an 8 week build season, winning 9 technical awards over 4 years
- Created extensive spreadsheets through research, securing over $100,000 through grant writing + sponsorships
- Contributor on FRCDesign.org, which provides a learning course to learn PTC Onshape effectively that has over 3000 users daily

Projects

Hydra | *PTC Onshape, Mechanical Design, Electronics + Software Integration, 3D Printing* May 2025 – Present

- Designed (PTC Onshape) and built a custom 5-head toolchanger 3D printer with automated tool docking
- Integrated mechanical, electrical, and Klipper software systems including motion control, macros, and auto leveling for tolerances within .005"
- Optimized slicer profiles and tool-change routines to reduce material waste by 30%, time, and improve print quality

CCMini | *PTC Onshape, Mechanical Design, Electronics + Software Integration, 3D Printing* September 2025 – Present

- Designed (PTC Onshape) and built a custom 3D printer with a unique kinematic cantilevered cross gantry motion system
- Integrated mechanical, electrical, and Klipper software systems including motion control, macros, and auto leveling for tolerances within .005"

Amethyst | *PCB Design, Soldering, Onshape, Electronics and Software Integration* July 2025 – Present

- Designed a custom mechanical keyboard using KiCad for a full PCB layout and schematic design, including selecting and integrating all of the components
- Assembled and Soldered the keyboard, testing for full functionality and key mapping
- Created firmware and layout programming to optimize user experience

Technical Skills

CAD Software: PTC Onshape - Certified Onshape Professional, DS Solidworks
Mechanical Skills: Mechanical Design, Electronics + Software Integration, PCB Design, Soldering, 3D Printing
Firmware: Markdown, Klipper
Developer Tools: Git, VS Code, IntelliJ, Google Sheets