William Toll

https://wtoll.com | https://linkedin.com/in/wtoll1

Education

California Polytechnic State University in San Luis Obispo, California *September 2020 — March 2026*

- Bachelors of Science in Biomedical Engineering (General Concentration focused in Biotechnology)

Relevant Coursework

Micro/Nanofabrication, Genomics, Biomaterials, Microfluidics, Biomedical Imaging, Quality Engineering, Bioinformatics, Organic Chemistry, Molecular Biology, Bioinstrumentation, Thermodynamics, and Fluid Mechanics.

Biomedical Engineering Experience

Senior Project — *"Harmoneyes"* *January 2025 — June 2025*

- Utilized CAD to design and 3D print the housing for an assistive, wearable device with haptic feedback.
- Designed circuits, manufactured PCBs, and hand soldered SMDs for a custom electronics platform.
- Wrote drivers for the DWM3000 and implemented ultra-wideband ranging and mesh networking algorithms.
- Wrote a kernel in asynchronous Rust for the nRF52840 and RP2040 to handle Bluetooth (BLE) communication.

Procyrion Inc. — *Contract Software Engineer* *July 2022 — October 2022*

- Designed and developed a suite of cross-platform, native, desktop applications for lossless signal processing.
- Wrote GPU accelerated software to visualize and compute real-time statistics over gigabyte scale datasets.
- Performed statistical analysis of microfluidic data from in vivo testing of a novel cardiorenal circulatory device.

Cal Poly EMPOWER — *Hand for Beth* *November 2021 — March 2022*

- Utilized CAD and finite-element analysis to design a custom prosthetic hand for a local community member.
- 3D printed a functional prototype and performed mechanical and biocompatibility testing of final materials.
- Designed an electronics platform and wrote ARM firmware to handle myoelectric user input and feedback.

Research Experience

Cal Poly SURP — *Supporting Neurodivergent Students* *June 2024 — December 2024*

- Identified pedagogical techniques to promote positive course outcomes in neurodivergent STEM students.
- Designed surveys for administrative faculty to collect course outcome data and wrote software for its analysis.
- Developed methodologies for assessing the impact of various pedagogical interventions on neurodivergence.

Technical Skills

Programming Languages

C, C++, C#, Rust, Java, Kotlin, Go, Typescript, Python, R, Haskell, MATLAB, WebAssembly, Embedded Programming.

Software

Solidworks, Abaqus, ImageJ, OpenCV, AutoCAD, Revit, SPICE, OpenSim, Fusion360, COMSOL Multiphysics, Git (VCS), Microsoft Office Suite, Adobe Creative Cloud, Galaxy Bioinformatics, JMP, KiCAD, CI/CD, Linux, Eagle CAD.

Equipment & Technologies

Microcontrollers, RNAi, Cell Tissue Cultures, Recellularization, CRISPR, Lathes/Vertical Mills, SPI, UART, I2C, ELISA, 3D Printing (SLA and FDM), Laser Cutting, CNCs, Arduino, Raspberry Pi, Six Sigma, JTAG and SWD Debugging.

Research & Extracurriculars

Theta Tau, Iota Zeta Chapter — *Corresponding Secretary* *April 2024 — April 2025*

- Coordinated professional, social, and philanthropic events with on-campus and community organizations.
- Organized industry presentations and site-visits and oversaw industry sponsored engineering project team.
- Acted as the primary contact for preparing and distributing external communications and marketing materials.

Extracurricular Interests

Film Photography, Botany, Ethics and Public Policy, Open-Source Hardware and Software, Molecular Gastronomy, Audio Engineering, Outdoor Recreation, Genetic Engineering, Graphic Design, Game Development.