

# John Paul Fallon

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## EDUCATION

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**University of Washington** | Seattle, WA

Graduated: June 2024

- Bachelor of Science, *Mechanical Engineering, Biomechanics* (GPA: 3.75/4.0)

## EXPERIENCE

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**Biomechanical Research Engineer II**

August 2024 - Present

*Sanders Lab, UW Bioengineering* | Seattle, WA

- Developed and tested a variable-stiffness brace for Achilles tendinopathy rehabilitation and adaptive prosthetic socket systems with feedback control for residual limb volume management, utilizing MATLAB biomechanical modeling, motion capture gait analysis, and 3D scanning (FARO arm)
- Conducted 100+ human subject testing sessions, collecting and analyzing gait data to evaluate device/controller performance, socket fit quality, and clinically relevant biomechanical outcomes
- Co-authored research manuscripts (in preparation) and contributed to 6 patent applications, creating data visualizations to communicate complex findings to both clinical and engineering audiences

**Nano-architected Materials Research Assistant**

October 2023 - June 2024

*Meza Research Group* | Seattle, WA

- Developed and conducted Abaqus simulation procedures for prestressed nano-tensegrity architectures
- Evaluated and interpreted FEA results from compressive lab experiment trials to validate new mechanical theory

**Engineering Design & Field Intern**

June 2022 - September 2022

*Applied Physics Lab* | Seattle, WA

- Collaborated in an interdisciplinary team to design, manufacture, and field-test cutting-edge sonar systems
- Executed individual structural design projects implemented onto lab research vessels
- Manufactured sonar array components and CNC-milled parts, assisted senior engineer in co-learning new 5-axis mill
- Final Project: Designed and manufactured a dynamic sonar mount for our vessel's submersible sensor frame

**Dock Staff Assistant Manager**

June 2021 - September 2024

*The Electric Boat Company* | Seattle, WA

- Managed operations team of 5+ employees, trained new staff, performed fleet maintenance on 25+ electric vessels, and conducted emergency response operations in high-pressure marine environments

## EXTRAS

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**IBM AI Engineering Professional Certificate**

July 2025 - August 2025

- Hands-on experience in machine learning, deep learning, and generative AI technologies including LLMs, transformers, and NLP applications using Python, TensorFlow, and PyTorch

**Structural Team Engineer**

October 2021 - October 2022

*Washington Superbike Team* | Seattle, WA

- Researched and designed a new aluminum frame using SolidWorks and ANSYS FEA analysis to compete in the AHRMA Lightning Series Motorcycle Competition

**Future of Sports Technology Research Assistant**

October 2020 - June 2021

*UW Human-Centered Design & Engineering* | Seattle, WA

- Selected as freshman for 11-member research team developing sports performance tracking devices

## SKILLS

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### Research & Analysis

Experimental Design, Human Subjects Testing Protocols, Biomechanical Data Analysis, Statistical Methods, Gait Analysis

### Design & Manufacturing

Device Development, Biomechanical Systems, Fixture Design, CNC Milling, 3D Printing, Advanced Composites Fabrication

### Software

MATLAB, Python, Inventor, SolidWorks, ANSYS, Abaqus, TensorFlow, PyTorch, Adobe Creative Suite