Christian Voloshen

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Education

Cornell University, College of Engineering, Ithaca, NY **May 2025**

Master of Biomedical Engineering | Lester B. Knight Scholarship Recipient and Graduate Teaching Specialist

- **Relevant Coursework:** Cyber-Physical Systems, Design of Reliable Systems, Machine Learning, Digital Signal Processing, ANSYS, FDA Regulatory Affairs, Microcontrollers and Instrumentation, Biomedical Device Design, Quantitative Finance
- **Certifications:** Six Sigma Green Belt

University of Rochester, School of Engineering and Applied Sciences, Rochester, NY **May 2024**

Bachelor of Science in Biomedical Engineering | Concentrating in Systems and Signals

- 3.98 out of 4.00 GPA and Dean's List for 8 semesters
- Member of the Tau Beta Pi and Phi Beta Kappa Honor Societies
- NCAA D3 Track and Field Athlete - Recognized as a *2023 Provost Circle Scholar* for academic and athletic achievement

Relevant Experience

Touchdown Medical Technology at Cornell University, *Design Engineer*, Ithaca, NY **Sep 2024 - Present**

- Collaborating with multidisciplinary team of engineers to design a scaffold which promotes artificial spinal disc integration and replicates natural function
- Developing robotic arm protocol to simulate physiologic loading as part of verification and validation of scaffold performance
- Currently prototyping a sensor-based testing apparatus to ensure device meets relevant force and flexion/extension parameters

Ultrasound Tomography Lab, *Undergraduate Research Assistant*, Rochester, NY **May 2023 - Aug 2024**

- Enhanced clinical image quality by developing a MATLAB algorithm which accounts for variable sound speed values in tissue
- Accelerated image reconstruction by 75% compared to previous lab methods by optimizing data processing methods
- Enriched lab resources through literature reviews on ultrasound modalities, brain imaging and neuromodulation capabilities, and multistatic synthetic aperture techniques

Lehigh Valley Health Network, *Summer Research Scholar*, Cedar Crest, PA **Jun 2023 - Aug 2023**

- Identified bottlenecks in emergency department system workflow through multi-faceted time studies regarding triage efficiency
- Converted complex data into actionable insights regarding process improvements for multidisciplinary healthcare teams
- Shadowed medical tech cadaver labs, compiled research findings, and communicated with physician-based focus groups

Additional Experience

Tyber Medical, *Research and Development Intern*, Bethlehem, PA **May 2022 - Aug 2022**

- Produced four surgical technique guides in partnership with surgeons, ensuring clear instructions for optimal product use
- Designed and 3D-printed custom plate-bending pliers in SolidWorks to seamlessly interlock with Tyber Medical bone plates
- Ensured design manufacturability by analyzing screw-plate assemblies in SolidWorks for maximum material conditions

Sanofi Pasteur, *Automation Center of Excellence (ACE) Department Intern*, Swiftwater, PA **May 2021 - Aug 2021**

- Streamlined testing of vaccine through a BioTek Gen5 software tool for automatic bacterial colony counting in assays
- Supported technology integration with quality teams by leading training sessions regarding augmented reality headsets
- Earned BioSafety Level 2 certification to work in labs handling moderately hazardous microbes

Leadership Experience

Graduate Teaching Specialist, *Circuits, Signals, and Systems*, Ithaca, NY **Aug 2024 – Dec 2024**

- Provided teaching assistance to 50 undergraduates through laboratory practicums; nominated to position based on previous merit

Engineers Without Borders, *Local Project Lead*, Rochester, NY **Jan 2022 - May 2024**

- Spearheaded weekly meetings for multi-functional team of 6+ engineers devoted to providing solar power to a local greenhouse

Skills and Interests

- **Design Tools***:* SolidWorks, Fusion, and 3D printing
- **Programming Knowledge**: MATLAB (data analysis, GUI creation, and imaging/image processing), Python/MicroPython, R (Statistics, data analysis, and system reliability), C (Microcontroller/Arduino and Robotics)
- **Administrative Skills***:* Project engineering plans, grant applications, and FDA regulatory compliance
- **Interests:** Neuroscience and neurotechnology, trail running, rock climbing, geocaching, guitar playing