Daniel Yaming Shi

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Linkedin - linkedin.com/in/daniel-shi

Portfolio - danyamshi.github.io

Biomedical engineer with extensive preclinical research, medical device R&D, and data sciences experience in healthcare. Strong analytical, regulatory, and leadership knowledge. Interested in R&D, QE, DS, and additional technical positions in the MedTech industry.

Education

Master of Translational Medicine
UC Berkeley & UCSF - June 2025
(GPA 3.97)

B.A.Sc in Chemical Engineering
University of Toronto - June 2023
(GPA 3.86)

Skills & Expertise

Engineering
SolidWorks, AutoCAD, Fusion 360, Ansys Structural FEA, Ansys Fluent CFD, MS Project, DOE, Laser Cut, 3D Printing, DFM, Arduino

Programming
ML/AI, NLP, Python, Pytorch, C#, C++, SQL, HTML+CSS, MATLAB, Simulink, VBA, LaTeX, Unity

Data Science
MS Power BI, MS Azure Databricks, MS Power Automate, Minitab, Alteryx, MS Office, SAP BI, Statistics

Medical Device Knowledge
QMS, 21 CFR 820/ISO 13485, ISO 14971, IP, 510(K)+PMA, EHR, V&V, DHF, CAPA

Relevant Experience

Software Engineering Research Assistant   [01/2025 - 05/2025]
Stanford Medicine (Computational Arrhythmia Lab) | Stanford, CA
- Engineering prompts and developing an LLM to assess AF burden from cardiology device notes using NLP
- Applying k-means clustering on clinical note embeddings to identify relevant device notes for ground truth dataset

Research and Development (R&D) Engineer I   [08/2024 - 05/2025]
HydroShield | San Francisco, CA
- Developing a motorized hydrogel injector to reduce off-target damage during thermal tumor ablation (UCSF-UC Berkeley startup)
- Applied mechatronics, linear actuator control, human factors concepts
- Ensured compliance with QMSR (21 CFR 820/ ISO 13485) for proof-of-concept and current V&V studies for future Class II 510(k) clearance

Graduate Student Instructor   [08/2024 - 05/2025]
UC Berkeley | Berkeley, CA
- Instructing 200+ students for MCB 32: "Human Physiology", and NEU C61: "Brain, Mind, and Behavior" 3 times a week
- Achieved teaching evaluations 8% above departmental average for teaching clarity and effectiveness

Digital Transformation Specialist   [05/2023 - 07/2024]
Johnson & Johnson (J&J) | Toronto, Canada
- Analyzed 300K+ SAP BI orders to reducing manual steps by 20% via subsequent Python, SQL, and Azure Databricks automation
- Built 8 Power BI dashboards to track SAP/Salesforce KPIs to enable real-time analytics for the business
- Partnered with IT to enhance SAP S/4HANA workflows and global deployment through Agile sprints

Bachelor Thesis - Tissue-Engineered Vascular Graft   [08/2022 - 04/2023]
University of Toronto (Santerre Lab) | Toronto, Canada
- Analyzed effect of GelMA on biomechanics and biocompatibility of cellularized polymeric vascular grafts
- Designed experiments to robustly address research questions
- Applied biochemical assays (DNA, elastin, collagen, GAG), confocal/SEM imaging, uniaxial and suture mechanical tests

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Exchange Researcher - Volumetric 3D-Printed Muscle [05/2022 - 08/2022]
ETH Zurich (Soft Robotics Lab) | Zurich, Switzerland
- Investigated volumetric 3D bioprinting to create contractile thin film muscles for biohybrid robots
- Applied additive biofabrication, electrical field stimulation, confocal imaging, and biomechanical actuation

Business & Product Management Specialist [05/2021 - 04/2022]
Advanced Micro Devices (AMD) | Toronto, Canada
- Coordinated press sampling for 4 global GPU launches (RX 6600 XT, RX6600, RX 6500 XT, RX 6950 XT)
- Oversaw product management by analyzing lifecycle, growth potential, and market competitiveness
- Designed Python, SQL, and VBA scripts to create business case forecasting and pricing tools

Exchange Researcher - Total Artificial Heart [05/2020 - 08/2020]
ETH Zurich (Functional Materials Lab) | Zurich, Switzerland
- Developed an artificial heart medical device prototype on an international team of six European researchers
- Designed 40 ventricular geometries in SpaceClaim/SolidWorks with variations created from Taguchi DOE, simulated in Ansys Structural and Fluent to assess cyclic Von Mises stresses and blood stagnation areas

Leadership Experience

Graduate Student Representative [08/2024 - 05/2025]
UC Berkeley Vice Chancellor Student Advisory Committee (VCSAC) | Berkeley, CA
- Representing the Graduate Assembly and the interests of 12,500+ graduate students in monthly advisory discussions with UC Berkeley Vice Chancellor Stephen Sutton, EdD
- Providing student feedback and recommendations for emerging university policies on activism, student affairs, and campus services to promote overall UC Berkeley student experiences

Dept. of Bioengineering Delegate [08/2024 - 05/2025]
UC Berkeley Graduate Assembly | Berkeley, CA
- Representing 300+ graduate students in monthly legislative meetings to improve campus, city, state, and federal policies regarding student experience, academic development, and funding allocation
- Collaborated with 60 delegates to address key campus issues impacting the graduate community

Third Year Chemical Engineering Representative [05/2020 - 04/2021]
UToronto Engineering Society | Toronto, Canada
- Elected by my year (120 students) for student government and academic representation at faculty level
- Discussed curricular concerns with professors, held academic town hall meetings between students and the department, and organized regular social events 2 times each month

Notable Awards

- MTM Excellence Scholarship (**25,000 USD**) (2024)
- Zeno Karl Schindler Foundation Summerschool Exchange Grant (**2,940 CHF**) (2022)
- ThinkSwiss Research Scholarship from US Embassy of Switzerland in Washington, D.C. (**5,400 CHF**) (2022)
- Featured on UofT's website: https://chem-eng.utoronto.ca/news/cheme-future-leader-daniel-shi/ (2021)
- Ontario Professional Engineers Foundation For Education Undergraduate Scholarship (**1,500 CAD**) (2021)
- Sydney George Harris Leadership Bursary from the University of Toronto (**1,926 CAD**) (2020)
- NSERC Undergraduate Student Research Award (**5400 CAD**) (2019)