Soroosh Sanatkhani, Ph.D.
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EDUCATION

COLUMBIA UNIVERSITY, Post Doctoral, Biomedical Engineering – Neuroscience   2021 – Expected May 2025
- Successfully secured NIH-RO1 grant funding for 2023 and 2024 in collaboration with my team, contributing significantly to both the research and drafting stages of the grant proposal process (totaling $1.48 million)
- Research: Experimental study and computational modelling to understand the underlying mechanisms of ultrasound-induced neuromodulation in non-human primates

UNIVERSITY OF PITTSBURGH, Ph.D., Bioengineering – Bioimaging & Signals   2017 – 2021
- Received American Heart Association Predoctoral Fellowship in 2020 (scored top 10%, success rate: 22%) ($62k)
- Awarded 3 distinct fellowships in cardiovascular engineering consecutively from 2017 to 2019, a Biomedical Engineering Society travel grant (2018), and a University of Pittsburgh Scholarship (2017) (totaling +$90k)
- Thesis: Hemodynamic and Shape-Based Models of Left Atrial Appendage to Enhance Stroke Prediction in Atrial Fibrillation

SHARIF UNIVERSITY OF TECHNOLOGY, M.Sc., Mechanical Engineering – Energy Conversion   2013 – 2016
Top-ranked engineering university in Iran (acceptance rate of less than 0.1%)
- Honored with the 3rd Best Paper Award at the 2016 International Iranian Conference in Biomedical Engineering
- Thesis: Three-dimensional Simulation and Mathematical Model of Urine Concentrating Mechanism in Rat Inner Medulla

IRAN UNIVERSITY OF SCIENCE & TECHNOLOGY, B.Sc., Mechanical Engineering – Automotive   2009 – 2013
Top-ranked engineering university in Iran (acceptance rate of less than 5%)
- Ranked 2nd out of 30 in class of 2013
- Thesis: Experimental and Numerical Analysis of a Passenger Car with Rear Spoiler at Different Angles of Attack

WORK & RESEARCH EXPERIENCE

COLUMBIA UNIVERSITY, The Mortimer B. Zuckerman Mind Brain Behavior Institute   New York, USA
Postdoctoral Research Scientist   2021 – Present
- Lead the design and execution of innovative biomedical experiments to uncover the mechanisms of ultrasound-induced neuromodulation and drug delivery, which aims to ensure the safe translation of scientific research into healthcare solutions
- Develop and execute a strategic plan to streamline the MRI protocol and introduced a quantitative image processing algorithm for the lab, resulting in a significant reduction in operational time and a projected annual savings of $24k each year

UNIVERSITY OF PITTSBURGH, Department of Bioengineering   Pittsburgh, USA
Graduate Researcher and Predoctoral Fellow of American Heart Association   2017 – 2021
- Spearheaded collaboration between two engineering principal investigators and two cardiologists for dissertation work, resulting in several publications including seven first-authored peer-reviewed papers and one book chapter
- Devised a predictive stroke risk model for AF patients utilizing hemodynamic data from a 150-patient cohort, which addresses a global health concern impacting 60 million people and a projected economic burden of $36 billion
- Taught and supervised 200+ graduate and undergraduate students as guest lecturer and teaching assistant in courses for Linear Systems and Electronics laboratory, Biomechanics, Quantitative Image Analysis & Visualization, and Biomedical Imaging

LEADERSHIP ROLES

COLUMBIA UNIVERSITY ADVANCED STATISTICS CLUB
Co-organizer   2022 – 2023
- Co-led a weekly forum for 5 peers, facilitating group discussions, organizing lectures, and contributing to a collaborative learning environment to discuss and explore advanced Bayesian statistical concepts and applications

UNIVERSITY OF PITTSBURGH BIOMEDICAL ENGINEERING SOCIETY
Chair of Academic & Professional Development   2018 – 2020
- Provided support to 30+ students preparing for Ph.D. preliminary exams by organizing review sessions and workshops
- Led monthly Ph.D. students presentation breakfast club with 8+ participants
- Directed 15 professional development workshops, dinners with industry guests, and coffee chats with 7+ participants

SKILLS AND ACTIVITIES

- **Languages:** Bilingual in English and Parsi (Persian)
- **Programming:** Proficient in C++, Python, R, MATLAB, TensorFlow, Qt, WinUI3, GitHub Actions (CI/CD)
- **Statistical Analysis & Engineering:** Proficient in adv. quantitative research & analysis, mathematical & statistical modelling
- **Software:** SPSS, SAS, ANSYS, OpenFOAM, Autodesk Fusion 360, SolidWorks, CATIA, Abacus, COMSOL, FSL, AFNI
- **Communication:** Presented work in 10 conferences, 9 peer-reviewed publications (7 first-authored), 1 book chapter, 3 dissertations, 7 successful grant applications (5 principal investigator), and several lab meetings
- **Activities:** Routinely engage in cycling trips spanning over 80 miles; active participant in the Columbia postdocs tennis group.