Soroosh Sanatkhani, Ph.D.

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SUMMARY

- More than 10 years of study and research in engineering—mechanical and biomedical
- Significant knowledge of data analysis, quantitative medical image analysis, machine learning, cognitive/systems neuroscience, ultrasound, cardiovascular bioengineering, fluid dynamics, computational modeling and multiple programming languages

EDUCATION

Post-Doctoral Research – Neuro-Imaging October 2021-Present
Columbia University, Zuckerman Institute, New York, NY, USA

PhD, Bioengineering - Bio-Imaging and Signals track August 2021
University of Pittsburgh, School of Engineering, Pittsburgh, PA, USA

Master of Science, Mechanical Engineering - Fluid Mechanics January 2016
Sharif University of Technology, Department of Mechanical Engineering, Tehran, Tehran, Iran (acceptance rate: < 5%)

RESEARCH EXPERIENCE

Post-Doctoral Research Scientist October 2021–Present
Columbia University, Zuckerman Institute; PI: Dr. Vincent Ferrera

- Experimental study and computational modeling to understand the underlying mechanisms of ultrasound-induced neuromodulation
- Comparison of the effects of neuromodulation with and without opening of the blood-brain barrier
- Investigation of the perfusion mechanisms that affect neuromodulation

American Heart Association Pre-Doctoral Fellow January 2017–August 2021
University of Pittsburgh, Dept. of Bioengineering; PI: Dr. Sanjeev Shroff & Dr. Prahlad Menon

- Developed a predictive model for stroke risk stratification in AF patients and conducted research in cardiovascular bioengineering with a focus on hemodynamic quantification
- Worked with a team of cardiologists, electrophysiologists and engineers
- Assisted in teaching undergraduate and graduate courses. Trained and supervised three research assistants

Intern June 2011–September 2011
Iran Khodro Industrial Group (IKCO), Dept. of Engine Design, Tehran, Tehran, Iran

- Conducted research on CVT transmission

HONORS & AWARDS

Fellow of American Heart Association (FAHA) 2020–2021
Pre-doctoral fellowship

Leonard H. Berenfield Fellow 2019–2020 and 2017–2018
Fellowship in cardiovascular bioengineering, Dept. of Bioengineering, University of Pittsburgh

Wes Pickard Fellow 2018–2019
Fellowship in cardiovascular bioengineering, Dept. of Bioengineering, University of Pittsburgh

BMES/EGSO University of Pittsburgh Travel Grant 2018

University of Pittsburgh Scholarship 2016–2017

3rd best paper in ICBME 2016
International Iranian Conference in Biomedical Engineering, Tehran, Tehran, Iran

Graduated second in undergraduate class 2013
Iran University of Science & Technology, Tehran, Iran

Member of National Organization for Development of Exceptional Talents 2002–2009
Allameh-Helli NODET, Tehran, Tehran, Iran

LEADERSHIP & VOLUNTEER

Chair of Academic & Professional Development 2018–2020
Biomedical Engineering Society (BMES) at University of Pittsburgh, Pittsburgh, PA

- Led the student presentation breakfast club
- Organized and led professional and academic development workshops
- Provided support to students preparing for PhD preliminary exams

SKILLS

Machine Learning, Quantitative Analysis, Statistical Modeling, Neuroimaging, Computational Fluid Dynamics, Computational Modeling, Image Analysis, Magnetic Resonance Imaging

Computer: proficient in C++/C, MATLAB, Python, R, SAS, SPSS
Mechanical Engineering: OpenFOAM, Ansys (Workbench, SpaceClaim, Fluent, Meshing, ICEM, Mechanical …), GAMBIT, SolidWorks, CATIA, ADAMS