SANDESH G. BHAT, PH.D.

Post-Doctoral Research Fellow

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EXPERIENCE

Post-Doctoral Research Fellow

Department of Orthopedics, Mayo Clinic

📅 May 2021 – Ongoing   📍 Rochester, MN, USA

- Post-Doctoral Research Fellow in the Orthopedics Department under Dr. Kenton Kaufman.

Graduate Teaching Assistant

Arizona State University

📅 Aug 2018 – Dec 2019   📍 Tempe, AZ, USA

- Teaching Assistant for EGR 217 and EGR 343. Both courses revolved around Mechanics and Strength of Materials.
- Instructed and guided undergraduate students in Matlab, C and other computational programming languages for EGR 219: Computational Modelling of Engineering Systems.

Graduate Research Assistant

Arizona State University

📅 Aug 2017 – Dec 2018   📍 Tempe, AZ, USA

- Worked in the Robotics, Dynamical Systems and Controls Group as a Ph.D. student under Dr. Sangram Redkar and Dr. Thomas Sugar.
- Designed and Developed a Passive Prosthetic Ankle under a Small Business Innovation Research grant.
- Worked on Universal Robots 5 and Baxter platforms and guided undergraduate students on the same.
- Worked on multiple proposals with Dr. Redkar.

PROJECTS

- *Upper Extremity Orthosis* (Mayo Clinic) in 2021.
- *Invariant Manifolds in Human Walking Gait* (Arizona State University) in 2019.
- *Mechanical Design of an Elbow Exoskeleton* (Arizona State University) in 2019.
- *Periodic Force Applied to the Hip During Normal Human Gait* (Arizona State University) in 2018.
- *Topology Optimization of Automotive Lower Control Arm* (Arizona State University) in 2018.
- *Application of Genetic Algorithm and Various Optimization Routines* (Arizona State University) in 2018.
- *Development of an IMU Based Motion Capture System* (Arizona State University) from 2017 to 2018.
- *Design/Development of a Passive Prosthetic Ankle* (Arizona State University) in 2017.
- *Hyper-loop Control System modelling and Simulations* (Arizona State University) in 2017.
- *Hyper-loop Control System modelling and Simulations* (Arizona State University) in 2017.
- *3D printed bionic arm* (University of Mumbai) in 2016.

EDUCATION

Doctor of Philosophy

Ira A. Fulton Schools of Engineering, Arizona State University, USA

📅 January 2018 – May 2021

- Specialization in Gait Dynamics and Prosthetics/ Orthotics control.

Master of Science

Ira A. Fulton Schools of Engineering, Arizona State University, USA

📅 August 2016 – December 2017

- Specialization in Mechanical Engineering, Controls and Robotics.

Bachelor of Engineering

University of Mumbai, India

📅 August 2012 – May 2016

- Specialization in Mechanical Engineering.

ORGANIZATIONS

Director of Outreach

Graduate and Professional Student Association

📅 August 2020 - April 2021

Assembly member

Graduate and Professional Student Association

📅 August 2019 - May 2020

Student President

Mechanical Engineering Students Association

📅 August 2020 - April 2021

Treasurer

Mechanical Engineering Students Association

📅 August 2020 - April 2021

STRENGTHS

Matlab and Simulink   Python   C\C++

ROS   Open-Sim   Biomechanics toolkit

Motion Capture and Data Analysis

Embedded Systems

Operation of various Manipulator Arms

CAD CAM