Chirayu Salgarkar

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Education

Rochester Institute of Technology — Rochester, NY
PhD in Mechanical Engineering — *Aug. 2024 – May 2029 (estimated)*
Safe AI Laboratory, under Dr. Ali Baheri

Mercer University — Macon, GA
B.S.E: Biomedical Engineering and Mathematics — *Aug. 2020 – May 2024*
cum laude, Stamps Scholar (full-ride scholarship)

Budapest Semesters in Mathematics — Budapest, Hungary
Advanced coursework in pure and applied mathematics — *May 2023 – Aug. 2023*

Experience

Research Intern (Electronic Systems Laboratory) — Oct. 2023 – May 2024
Georgia Tech Research Institute — *Warner Robins, GA*
- Developed front-end tools to simulate electronic systems used at Robins Air Force Base using Typescript, React, and Git
- Worked with Material UI library to help build components for simulation

Software Engineering Intern — Feb. 2023 – Aug. 2023
Harris Computer — *Atlanta, GA*
- Front and back-end development for preauthorization of care for hospitals. Using React, SQL.
- Resolved 50+ tickets in JIRA, helped develop subgroup company logo.

Control Systems Research Assistant — Oct 2020 – Present
Mercer University — *Macon, GA*
- Research assistant and undergraduate mentor for the *Cyber-physical Systems and Control Laboratory*, under Dr. Makhin Thitsa
- Developed control optimization strategies for various dynamical systems, such as safety-critical control systems
- Coauthored research paper on development of non-smooth control barrier function, currently in process of journal submission, presented work at Southern Conference Undergraduate Research Forum

Prostheses Fitter — May 2022 – July 2022
Mercer Prosthetics Program — *Preah Vihear, Cambodia*
- Constructed and fitted above and below-knee prosthetics for disabled persons in Cambodia free of charge on site
- Fabricated sockets, pylon, corrected for various leg deformities such as valgus and varus, individually fitted over 20 patients

Undergraduate Team Lead — May 2021 – Feb. 2022
Georgia Tech LIDAR Lab — *Atlanta, GA*
- Helped implement project to parse information from drone to bipedal robot for path-planning algorithms
- Implemented feedback control strategies, such as novel Control Barrier functions, in ROS, run on Ubuntu 18.04
- Funded by NSF grant (NSF-REU)

Projects

Prosthetic Pressure Sensor | *MATLAB, Excel, ESP32, Multiplexing* — Aug 2023 – May 2024
- Development of device to measure contact pressure between amputee stump and socket to prevent future soreness and bleeding
- Successfully designed, built, and tested on patients in clinical setting

Skills

Languages: Java, Python, C/C++, TypeScript, MATLAB + Simulink, LaTeX
Frameworks: React, Node.js, Material-UI
Engineering Tools: Autodesk: AutoCAD + Inventor, Solidworks, ANSYS, LTSpice, Machining skills, wet-lab skills
Certifications: Machine Learning Specialization (Stanford University and DeepLearning.ai), EMT-B and Wilderness First Responder, Prosthetic Design, Biomechanical and Clinical Fitting of Prosthetics (Hanger Clinic), MSI Six Sigma Lean Green Belt - Government
Leadership: All-American Collegiate Debater (NPDA), Poll Manager for Gwinnett County Elections