Aditya Ramanathan

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Data-driven mechanical engineer experienced in design & analysis of high-temperature thermal-mechanical systems, and optimization of internal processes. Seeking to provide innovative solutions to a collaborative engineering environment and to foster continuous improvement within the organization.

EXPERIENCE

Mechanical Engineer at Modern Hydrogen, WA, USA

Energy cleantech startup creating solutions to decarbonize heating and reduce customer cost

- Directed chemical reactor assembly and piping installation at three customer and fabricator sites across the US, enabling 0 successful delivery of product to customer within tight project timelines
- Developed tubing layout and support structure for chemical reactor, ensuring ease of maintenance Ο
- Performed thermal analyses by hand and verified with FEA models to calculate thermal expansion effects, allowing for 0 accurate positioning of high-temperature electrodes in ultra-high vacuum environments
- Served as CAD administrator and programmed SolidWorks macros to improve design speed company-wide Ο
- Standardized design procedures and implemented robust approval process with comprehensive documentation to 0 promote high-quality output and best engineering practices

Sensor Fusion Team in EPIC Lab, Georgia Tech

Research laboratory under Dr. Aaron Young specializing in intelligent controls of powered exoskeletons and prostheses

- Reduced time taken for data processing by 80% using novel algorithm to automate gap-filling of motion capture data 0
- Published an open-source dataset of lower-limb biomechanics data, geared towards machine learning applications 0
- Created MATLAB codebase integrated with OpenSim, reducing dependency on proprietary software 0

SKILLS

Concepts:	CAD (SolidWorks), FEA (Ansys), Engineering & technical drawings, Swagelok/tubing design, PDM,
	3D printing, brazing, laser cutting, soldering, PCB Design (Eagle, KiCad), breadboarding
Programming:	Python, MATLAB, C, C++, C#, Java, Git, EES, Arduino, Assembly, JavaScript
Communication:	Technical writing, presentations, research papers, teaching & tutoring
Languages:	French, Spanish
Music:	Violin, music theory, composition, arrangement, transcription
EDUCATION	

EDUCATION

Georgia Institute of Technology, Atlanta, GA

- Bachelor of Science in Mechanical Engineering with Highest Honors
 - Concentration in Thermal, Fluid, and Energy Systems
 - Minors in Computing & Intelligence and Linguistics
- Major GPA: 4.00/4.00, Overall GPA: 3.97/4.00 0

Georgia Tech Lorraine, Metz, France

Georgia Tech European satellite campus 0

LEADERSHIP

Biomechanics Lead of Sensor Fusion Team in EPIC Lab, Georgia Tech August 2019 – May 2020

Leader of group of 3-4 undergraduate students performing data collection and analysis of joint biomechanics

- Delegated responsibilities according to individual strengths and tracked progress through weekly meetings 0
- 0 Trained team members in experimental protocol for motion capture and good engineering principles August 2019 - May 2020

Tutor Mentor at Center for Academic Success (CAS), Georgia Tech

Connection between student staff and faculty to support tutors and influence direction of CAS

• Promoted development of tutoring skills among ~10 student staff per semester

PUBLICATIONS

- J. Camargo, A. Ramanathan, et al. "A comprehensive, open-source dataset of lower limb biomechanics in multiple 0 conditions of stairs, ramps, and level-ground ambulation and transitions." J. Biomech., vol. 119, Article 110320, 2021
- J. Camargo, A. Ramanathan, et al. "Automated gap-filling for marker-based biomechanical motion capture 0 data." Computer Methods in Biomechanics and Biomedical Engineering, vol. 23, no. 15, pp. 1180-1189, 2020

January 2021 – January 2025

January 2018 – May 2020

- August 2016 May 2020
- May 2018 August 2018