

Saaras Pakanati

Cincinnati, Ohio, USA

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Education	University of Cincinnati, Cincinnati, Ohio B.S. in Mechanical Engineering Minor in Mathematics GPA 3.95/4.00	August 2021 - Present
Research Interests	Computational Fluid Dynamics, Multiphase Flows, Machine Learning, Data Driven Modeling	
Research Experience	Undergraduate Research Assistant UC Lab for Interfacial Dynamics, advised by Dr. Kishan Bellur Dept. of Mechanical & Materials Engineering, University of Cincinnati <ul style="list-style-type: none">• Numerical & Experimental study of multiphase interfaces and associated phenomenon.<ul style="list-style-type: none">• Modeled multiscale cryogenic fuel evaporation using custom UDFs in ANSYS Fluent.• Designed & built an interferometry setup to study instabilities in liquid thin films.• Assisting in the study of the effect of temperature-sensitive surfactants on interfacial dynamics.	August 2024 - Present
Peer-Reviewed Publications	1. A. Yasin*, S. Pakanati* , K. Bellur, <i>A multiscale CFD model of evaporating Hydrogen menisci: Incorporating subgrid thin-film dynamics and in situ accommodation coefficients</i> , Fuels, 2025 (Accepted) *equal contribution	
Conference Presentations	2. A. Sarchami, S. Pakanati , T. Enam, A. Yasin, K. Bellur, <i>Stability and Contact Line Dynamics of Evaporating Thin Liquid Films</i> , 11 th ASTFE Thermal and Fluids Engineering Conference, Tempe, Arizona, March 9 – 12, 2026 1. A. Sarchami, S. Pakanati , K. Bellur, <i>Dynamic Optical Measurement of Evaporating Liquid Films</i> , ASME International Mechanical Engineering Congress & Exposition, Memphis, Tennessee, November 16 – 20, 2025 (Poster)	
Honors, Awards, and Fellowships	Armstrong Discovery Fellowship Awarded by the Armstrong Institute for Space, Technology, and Research	2025
	Undergraduate Research co-op Fellowship (2×) Awarded by the College of Engineering and Applied Science	2024–2025
	CEAS Annual Scholar - Undergraduate Research Awarded by the College of Engineering and Applied Science	2025
	UC Mathematics Department Calculus Contest - Runner's Up Awarded by Cengage Publishing & UC Department of Mathematical Sciences	2022
	CEAS International Outreach Scholarship Awarded by the College of Engineering and Applied Science	2021
	University of Cincinnati Global Scholarship Awarded by the University of Cincinnati	2021
Teaching Experience	Grader Dept. of Mechanical & Materials Engineering, University of Cincinnati <ul style="list-style-type: none">• Course(s): MECH 2010 (Thermodynamics)• Managed assignments and proctored exams for 150+ students.	August 2025 - Present

Supplemental Review Session Instructor

January 2023 - May 2025

University of Cincinnati Learning Commons

- Led in-class review sessions for Calculus I and II.
- Tutored students in 15 different Engineering, Mathematics, Physics, and Chemistry courses.

Industry Experience**New Product Development Mechanical Engineering co-op**

January 2024 - April 2024

MSA Safety, Cranberry Township, Pennsylvania

- Executed Finite Element Analysis in Ansys to validate design decisions for safety devices.
- Optimized prototype testing of Technology Readiness Level (TRL) 1 gas detection technologies by developing and applying Design of Experiments (DOE) methods using Minitab.
- Collaborated with Electrical and Software teams for cross-functional design.

Engineering co-op

August 2022 - December 2022 & May 2023 - August 2023

Richards Industrials, Cincinnati, Ohio

- Tested critical load-bearing components using destructive and non-destructive methods.
- Created technical drawings for shop floor fixtures using SolidWorks, collaborating with machinists.
- Developed tools and reports for engineering calculations, process optimization, and quality analysis.

Software Intern

June 2022 - July 2022

Visual Collaboration Technologies, Inc., Bengaluru, Karnataka, India

- Created a visualization tool for a CFD study using the dash framework in Python.
- Collaborated in an Agile development framework to code, following PEP8 standards.

Skills**Simulation:** Ansys (Fluent, Static Structural, LS Dyna), Siemens simulation suite (Siemens NX, StarCCM+), OpenFOAM, ParaView, SolidWorks, LAMMPS**Programming:** Python, MATLAB, C, C++, Bash, R Language, Minitab, LabView, \LaTeX **Experimental:** Optical interferometry, image processing and analysis, flow control, Semiconductor manufacturing, Design of Experiments**Certifications & Licenses****OASiS Foundations Program**, *University of Cincinnati* – 2025 | [link to certificate](#)**MATLAB Fundamentals**, *Mathworks* – 2023 | [link to certificate](#)**IBM Data Science Practitioner**, *IBM* – 2022 | [link to certificate](#)**Six Sigma Yellow Belt**, *The Council for Six Sigma Certification* – 2022 | Credential ID: h7L0bACNv5**NX – CAD Design Associate**, *Siemens* – 2022 | Credential ID: 6763-164-884-2231**Extra-Curricular****President**

September 2021 - Present

Undergraduate Research Society, University of Cincinnati

- President (2025-26), VP (2024-25) and, Events Chair (2022-23 & 2023-24)
- Organized meetings with executive team; managing presentations and logistics for regular outreach.
- Gave multiple presentations on undergraduate research at university classes, general meetings, and academic organizations.

Volunteer Tutor

October 2021 - December 2023

Bearcat Buddies, Cincinnati, Ohio

- Tutored students in the Cincinnati Public School system and assisted in the improvement of the content covered with the local in-charge.