NITISH NAGESH

Office Address:
3211 Donald Bren Hall
University of California Irvine
Irvine CA 92617
Cell: +1 (858) 888-1526
Email: nnagesh1@uci.edu
Website: https://nitish-nagesh.github.io/
LinkedIn: https://www.linkedin.com/in/nitish-nagesh/

EDUCATION

Ph.D. Computer Science — September 2021 - August 2026 (expected)
University of California Irvine
Thesis Committee: Amir Rahmani (Advisor), Ramesh Jain, Nikil Dutt

M.S. Computer Science — September 2021 - June 2023
University of California Irvine

M.Sc. Electrical and Computer Engineering — September 2018 - December 2020
Technical University of Munich, Germany

B.E. Electrical and Electronics Engineering — September 2012 - June 2016
R.V. College of Engineering, India

HONORS AND AWARDS

University of California Irvine

- Beall Family Entrepreneur Award in Computer Science — 2024
- Grad Slam (3 min research pitch competition) semifinalist — 2022, 2023, 2024
- Bob & Barbara Kleist Endowed Graduate Fellowship — 2023
- Beall Butterworth Product Design Competition (1st place, Global Track) — 2023
- Best Social Media Reporter ACM Multimedia Conference — 2022
- Student Travel Grant, ACM Multimedia Conference — 2022
- Mental Health Hackathon Winner (1 of 30) — 2022
- Elevator Pitch Competition 2nd place (out of 10), GPS-STEM — 2021
- Incoming Graduate Student Fellowship (1 of 350) — 2021

Technical University of Munich, Germany

- Academic Excellence Scholarship (1 of 200) — 2019 - 2020
- Masters Thesis Abroad Scholarship (1 of 50) — 2020 - 2021
- TUM: Junge Akademie Scholar (1 of 40) — 2018 - 2020

R.V. College of Engineering, India

- Best Outgoing Student (1st in 70) for all-round excellence — 2012 - 2016
- Academic Excellence Award (2nd in 70) for highest GPA — 2012 - 2016
- Innovative Thesis Award (2nd in 70) for entrepreneurship excellence — 2016

PUBLICATIONS

Journals

1. Zhongqi Yang, Elahe Khatibi, **Nitish Nagesh**, Mahyar Abbasian, Iman Azimi, Ramesh Jain, and Amir M. Rahmani. "ChatDiet: Empowering personalized nutrition-oriented food recommender chatbots through an LLM-augmented framework." Smart Health 32 (2024): 100465
2. Huang, Yong, **Nitish Nagesh,** Ajan Subramanian, Iman Azimi, Zhiyu Liu, Yichen Sun, Weiyi Hou, Amir Rahmani, Li Wang, Randall S. Stafford. “Impact of Patient Engagement in Remote Diabetes Management on Glycemic Outcomes: A Causal Inference Approach.” Journal of General Internal Medicine (JGIM), 2025. [Under Review]
3. Subramanian, Ajan, **Nitish Nagesh**, Yong Huang, Iman Azimi, Zhiyu Liu, Yichen Sun, Weiyi Hou, Amir Rahmani, Li Wang, Randall S. Stafford. “Remote Blood-Pressure Monitoring Improves Control in Stage II Hypertension.” Journal of American Heart Association (JAHA), 2025. [Under Review]

Peer-reviewed Conferences

1. **Nagesh, Nitish*,** Salar Shakibhamedan*, Mahdi Bagheri, Ziyu Wang, Nima TaheriNejad, Axel Jantsch, and Amir M. Rahmani. “FairTabGen: Unifying Counterfactual and Causal Fairness in Synthetic Tabular Data Generation.” arXiv preprint arXiv:2508.11810 (2025). [Under Revision]
2. **Nagesh, Nitish**, Elahe Khatibi, Mahdi Bagheri, Saba A. Farahani, Pratik Gajane, and Amir M. Rahmani. “MFAIRY: Multi-agent Fairness-aware Causal Discovery.” [Under Preparation]
3. **Nagesh, Nitish**, Ziyu Wang, Amir M. Rahmani. “FairCauseSyn: Towards Causally Fair LLM-augmented Synthetic Data Generation.” IEEE EMBC, 2025.
4. Mahyar Abbasian, Zhongqi Yang, Elahe Khatibi, Pengfei Zhang, **Nitish Nagesh,** Iman Azimi, Ramesh Jain, Amir M. Rahmani. “Knowledge-Infused LLM-Powered Conversational Health Agent: A Case Study for Diabetes Patients.” IEEE EMBC, 2024.
5. **Nitish Nagesh**, Iman Azimi, Tom Andriola, Amir M. Rahmani, Ramesh Jain. “Towards Deep Personal Lifestyle Models using Multimodal N-of-1 Data.” International Conference on Multimedia Modeling (MMM), 2023.
6. Kazim Ergun, Xiaofan Yu, **Nitish Nagesh**, Ludmila Cherkasova, Pietro Mercati, Raid Ayoub, Tajana Rosing. “Simulating Reliability of IoT Networks with RelIoT.” IEEE/IFIP DSN-S (Supplemental Volume), 2020.
7. Kazim Ergun, Xiaofan Yu, **Nitish Nagesh**, Ludmila Cherkasova, Pietro Mercati, Raid Ayoub, Tajana Rosing. “RelIoT: Reliability Simulator for IoT Networks.” International Conference on Internet of Things, 2020.
8. K. Uma Rao, Akash G. Parvatikar*, S. Gokul*, **N. Nitish***, Pramod Rao*. “A novel fault diagnostic strategy for PV micro grid to achieve reliability centered maintenance.” IEEE ICPEICES, 2016. *= equal contribution.

Workshops

1. Alex Yen, Bryse Flowers, Wenshan Luo, **Nitish Nagesh**, Peter Tueller, Ryan Kastner, Pat Pannuto. “A UCSD View on Replication and Reproducibility for CPS & IoT.” CPS-IoTBench Workshop, 2021.
2. Ali Rostami, **Nitish Nagesh**, Amir M. Rahmani, Ramesh Jain. “World Food Atlas for Food Navigation.” MADiMa Workshop at ACM MM, Lisbon, 2022.

Abstracts & Posters

1. Yong Huang, Ajan Subramanian, **Nitish Nagesh**, Zhiyu Liu, Randall S Stafford, Amir Rahmani, Weiyi Hou, Li Wang. “Patient Adherence to Self-Monitoring Practices and Glycemic Control – Findings from a Multiyear Digital Coaching Program.” American Diabetes Association (ADA) Scientific Sessions, 2025.
2. Ajan Subramanian, Yong Huang, **Nitish Nagesh**, Li Wang, Zhiyu Liu, Weiyi Hou, Iman Azimi, Randall Stafford, Amir Rahmani. “Long Term Remote Patient Monitoring Reduces Blood Pressure in Patients with Stage II Hypertension.” American Heart Association (AHA), 2024.
3. **Nitish Nagesh**, Vy Vuong, Meredith Barrett, Shuying Yu, Sumudu Herath, and Leanne Kaye. “Assessment Of AI/ML Approaches For Qualitative Analysis In Obstructive Sleep Apnea.” American Thoracic Society (ATS), San Francisco, 2025.

RESEARCH EXPERIENCE

Graduate Student Researcher, University of California Irvine June 2022 - Present

- Build novel LLM-augmented causally fair synthetic data generation pipeline using Python, R to reduce bias in real-world health datasets; first-author publication in IEEE Medicine and Biology conference.
- Assisted in conceptualizing an LLM-powered framework for a diet recommendation chatbot using health data, achieving 92% effectiveness; co-authored publication in Elsevier Smart Health Journal.
- Integrated dietary guidelines and nutrition calculation tools into LLM-based health agents, enabling explainable diet risk assessments; co-authored publication in IEEE Medicine and Biology conference.
- Developed a causal inference framework using Python for a 3-year N-of-1 observational dataset to analyze the effect of caffeine on heart rate variability; first-author paper in computing conference.

Visiting Researcher, University of California San Diego September 2019 - February 2021

- Developed novel reliability-aware task allocation strategies for IoT networks using Python to reduce overall maintenance cost.
- Built a real-world IoT mesh network communicating via MQTT and Wi-Fi to measure impact of resource constraints on reliability leading to 3 co-authored publications in top-tier system conferences.

PROFESSIONAL EXPERIENCE

Research Data Scientist Intern, ResMed, San Diego, CA June 2024 - September 2024

- Built LLM-powered topic modeling framework to analyze quantitative data for 6,000 sleep apnea patients using LLMs and Langchain in Python, improving therapy personalization.
- Collaborated with an interdisciplinary team of 5 researchers to refine product claims related to pressure and wakefulness in sleep apnea patients; first-author abstract in American Thoracic Society 2025.

Data Scientist Intern, iHealth Labs, Sunnyvale, CA June 2023 - September 2023

- Led de-identification, aggregation, and analysis of data for 12,000 patients in a remote patient monitoring program, adhering to HIPAA guidelines, resulting in an academia-industry partnership.
- Collaborated with a cross-functional team to develop personalized interventions for diabetes and hypertension management; co-authored abstract and poster at American Heart Association 2024.

Research and Development Engineer, Qualcomm, Austin, TX March 2021 - August 2021

- Developed a Python tool to parse 5,000 logs from the Qualcomm AI accelerator, reducing cycle time by 3x and lowering upstream production costs.
- Triaged and debugged failures in three ML accelerator SDKs through feature engineering and model evaluation, resulting in a 10% performance improvement across internal benchmarks.

TEACHING EXPERIENCE

Teaching Assistant, University of California Irvine

- ICS 139W Critical Writing on Information Technology
  - Fall 2021, Winter 2022, Spring 2022, Fall 2022, Winter 2023, Spring 2023, Summer 2023, Fall 2023, Fall 2024, Fall 2025
- CS145 Embedded Software Spring 2025
- CS295P Capstone Writing and Communication Spring 2024
- CS122A Database Management Winter 2024
- ICS 6B Boolean Logic and Discrete Structures Summer 2024
- CS143A Principles of Operating Systems Summer 2025
- CS141 Programming Languages Fall 2024
- ICS 46 Data Structures Winter 2025

MENTORING

University of California, Irvine
Mentor, Artificial Intelligence Club September 2021 - Present

- Initiated the “How to Apply to Grad School” series for 75+ students, reviewed 15+ personal statements, leading to 5+ admission offers from Carnegie Mellon University, University of Southern California etc.
- Designed and executed a 10-week coding interview preparation program for 15 students to prepare them for software engineering and machine learning internships and jobs in the industry
- Hosted information sessions on "How to apply for research opportunities" for 20 + students leading to 5+ students pursuing UROP and other on-campus research roles

Peer Mentor, Graduate Interconnect and Competitive Edge June 2022 - December 2022

- Assisted staff at the International Center in helping 20 incoming graduate students to transition smoothly into their graduate program
- Mentored graduate student 1:1 after arriving at UCI on aspects related to finding advisors, logistics, and program specific questions through blog posts and coffee chats
- Peer mentor for incoming a underrepresented computer science graduate student with diverse academic and cultural background

University of California, San Diego
Undergrad Research Mentor January 2020 - March 2020

- Mentored a rising junior through biweekly sessions covering research fundamentals and lab projects, leading to their research assistant and undergraduate researcher roles.

Technical University of Munich
Global Exchange Mentor May 2019 - August 2019

- Served as a PREP (Practical Research Experience Program) Buddy for a UC Berkeley undergraduate, supporting academic onboarding, cultural adjustment, and daily logistics during a 9-week research stay
- Advised a junior student from National Chiao Tung University, Taiwan through the MIX (Mentoring for International eXchange Students) program on course selection and academic planning in Electrical and Computer Engineering

OUTREACH

Inclusive Excellence Representative, Computer Science September 2021 - Present

- Ally for women in tech (GHC '23 scholar), mentor for 5 underrepresented students, led panel of 50+ attendees on ethical and societal challenges in computing.
- Collaborate with students, faculty and partners toward a brilliant future and increasing retention of minorities in graduate programs.
- Coordinated and organized a panel on "How to Excel in your Summer Internship" with panelists from Google, Amazon, Facebook, Apple and Microsoft.
- Led a panel of 50+ attendees on critical aspects of large language models, reproducibility challenges, ethical and societal challenges in computing.

TALKS AND PRESENTATIONS

- FairTabGen: Unifying Counterfactual & Causal Fairness for Synthetic Tabular Data Generation
  - Stanford AI+HEALTH Conference 2025
  - Stanford Data Science Conference 2025
- FairCauseSyn: Towards Causally Fair LLM-Augmented Synthetic Data Generation
  - Conference on Health, Inference, & Learning, Doctoral Symposium, CA 2025
  - IEEE Engineering in Medicine and Biology Conference, Denmark 2025
- LLMs/AI tools on a Daily Basis, Pacific Club, Newport Beach, CA 2025
- FoodMoodAlly
  - Grad Slam, Irvine, CA 2022-2024
  - Anteater Family Weekend Grad Slam, Irvine, CA 2023
- Towards deep personal lifestyle models using multimodal N-of-1 data
  - International Conference on Multimedia Modeling, Norway 2023
- Building Diet and Well-being Recommendation Systems for Lifestyle Management
  - Stanford Prevention Research Center (SPRC) 2023
  - IIIT-Delhi, India 2022
- World Food Atlas for Food Navigation
  - Workshop on Multimedia Assisted Dietary Management, Portugal 2022
  - INRAE, Paris 2022
  - University of Barcelona, Spain 2022
  - Food and Agricultural Organization, Italy 2022

SERVICE

Reviewer

- Public Library of Science (PLOS) Digital Health 2025
- Association for the Advancement of Artificial Intelligence (AAAI) 2025
- Machine Learning for Health (ML4H) 2025
- International Conference on Multimedia Modeling (MMM) 2023
- ACM International Conference on Multimedia (ACMMM) 2022

Volunteer, Non-Profit, SMVA Trust, India July 2016 - August 2018

- Lead volunteer "Feeding the Hungry" project delivered food and essentials to 10+ orphanages and senior centers helping alleviate poverty and hunger.
- Organized personal hygiene awareness campaigns for impoverished youth toward long-term health.
- Involved in humanitarian assistance during natural calamities, organizing team building activities for youth, and striving towards environmental stewardship.

CERTIFICATES

University of California Irvine

- Preparing for Faculty Careers September 2025
- Course Design Essentials August 2025
- Emotional Intelligence Certificate November 2023
- Improv for Teaching Certificate March 2023
- Public Speaking Certificate Program, Activate to Captivate August 2022
- Improv for Science April 2022
- Mentoring Excellence Program May 2022

REFERENCES

Amir M. Rahmani, PhD, MBA
Professor of Computer Science and Nursing, University of California Irvine
Ph.D. Advisor
amirr1@uci.edu

Randall S. Stafford, MD, PhD
Professor of Medicine, Stanford University
Research Collaborator and Advisor
rstafford@stanford.edu

Ramesh Jain, PhD
Distinguished Professor of Computer Science, University of California Irvine
Research Collaborator and Advisor
jain@ics.uci.edu

Neil Young, PhD
Lecturer, University of California Irvine
Teaching Collaborator and Supervisor
neily@uci.edu