NITISH NAGESH

Office Address:
3211 Donald Bren Hall
University of California Irvine
92617

Cell: +1 (858) 888-1526
Email: nnagesh1@uci.edu
Website: https://nitish-nagesh.github.io/
LinkedIn: https://www.linkedin.com/in/nitish-nagesh/

RESEARCH INTERESTS

Causal Inference, Generative Models, Bias & Fairness, Health Equity

EDUCATION

Ph.D. Computer Science — September 2021 - June 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. Power 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 $5,000 — 2024
- Grad Slam (3 min research pitch competition) semifinalist — 2022, 2023, 2024
- Bob & Barbara Kleist Endowed Graduate Fellowship $2,500 — 2023
- Beall Butterworth Product Design Competition (1st place, Brazil Trip) — 2023
- Best Social Media Reporter ACM Multimedia Conference — 2022
- Student Travel Grant $2,000, ACM Multimedia Conference — 2022
- Mental Health Hackathon Winner $3,500 (1 of 30) — 2022
- Elevator Pitch Competition 2nd place (out of 10), GPS-STEM — 2021
- Incoming Graduate Student Fellowship $2,500 (1 of 350) — 2021

Technical University of Munich, Germany

- Academic Excellence Scholarship $2,500 (1 of 200) — 2019 - 2020
- Masters Thesis Abroad Scholarship US$2,000 (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

Conference

- (Under Review) **Nitish Nagesh***, Salar Shakibhamedan*, Mahdi Bagheri, Ziyu Wang, Nima TaheriNejad, Axel Jantsch, Amir M. Rahmani. “FairTabGen: Unifying Counterfactual and Causal Fairness in Synthetic Tabular Data Generation.”
- **Nitish Nagesh**, Ziyu Wang, Amir M. Rahmani. “FairCauseSyn: Towards Causally Fair LLM-augmented Synthetic Data Generation.” IEEE EMBC, 2025.
- 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.
- **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.
- 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.
- 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.
- 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.

Journals

- 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
- (Submitted) Ajan Subramanian, Yong Huang, **Nitish Nagesh**, Li Wang, Zhiyu Liu, Weiyi Hou, Iman Azimi, Randall Stafford, Amir Rahmani. “Remote Blood-Pressure Monitoring Improves Control in Stage II Hypertension.” Journal of the American Heart Association (JAHA), 2025.

Workshops

- 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.
- Ali Rostami, **Nitish Nagesh**, Amir M. Rahmani, Ramesh Jain. “World Food Atlas for Food Navigation.” MADiMa Workshop at ACM MM, Lisbon, 2022.

Abstracts & Posters

- 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.
- 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.
- **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.

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

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.

LEADERSHIP AND SERVICE

University of California, Irvine
Lead 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

Inclusive Excellence Representative, Computer Science September 2021 - Present

- Ally for women in tech (GHC ‘23 scholar), peer 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.

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 blogposts, campus tours 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

- Facilitated smooth transitions for international students by providing guidance on TUM's academic system, fostering cross-cultural connections, and introducing them to local German culture
- 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

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.

Reviewer

- 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

TALKS AND PRESENTATIONS

- LLMs/AI tools on a Daily Basis, Pacific Club, Newport Beach, CA 2025
- FoodMoodAlly, Anteater Family Weekend Grad Slam, Irvine, CA 2023
- Building Diet and Well-being Recommendation Systems for Lifestyle Management
    - Stanford University 2023
    - IIIT-Delhi, India 2022
    - INRAE, Paris 2022

- University of Barcelona, Spain 2022

SKILLS

- Programming Languages: Python, R, SQL
- Software Tools and Packages: PyTorch, TensorFlow, Langchain, SciPy, Scikit-learn, Git, Snowflake
- Hardware: Oscilloscope, Logic Analyzers, Arduino, Raspberry Pi, NodeMCU
- Spoken Languages: English, Hindi, Kannada, Telugu, Tamil

CERTIFICATES

University of California Irvine

- Preparing for Faculty Careers September 2025
- Course Design Essentials August 2025
- Career Transition Series Certificate June 2024
- Emotional Intelligence Certificate November 2023
- Accelerate2Industry 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