

Akash Deep Singh

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EDUCATION

University of California, Los Angeles (UCLA)

Ph.D. (E&MS) in Electrical and Computer Engineering, 3.975/4.0

Los Angeles, CA

Sep. 2018 – Mar. 2023

IIIT-Delhi

B.Tech in Electronics and Communication Engineering, 8.81/10

New Delhi, India

Aug. 2014 – May 2018

EXPERIENCE

Applied Scientist, Machine Learning

Ownwell Inc

April 2023 – Present

Austin, TX

- Developing machine learning models to predict home prices.
- ML Stack: Transformers, multi-modal fusion, gradient boosting, and temporal self-attention
- Tech Stack: Python, PyTorch, Scikit-learn

Applied Scientist Intern

Amazon

June 2022 – September 2022

Seattle, WA

- Developed ML models to detect fraud from user behavior patterns (mouse, keyboard gestures) and browsing data for the Buyer Risk Prevention (BRP) Team. Improved the performance of the production model by 6.96%.
- ML Stack: Temporal models such as LSTMs, multi-modal fusion, gradient boosting, and temporal self-attention
- Tech Stack: Python, PyTorch, Scikit-learn

Research Intern

Nokia Bell Labs

June 2021 – August 2021

Virtual

- Developed a self-supervised framework for extracting features from RF+camera data using contrastive learning. The framework outperformed its supervised counterpart on downstream tasks even with less training data – accepted at IEEE ICC 2022.
- ML Stack: Self-supervised learning, contrastive learning, CNNs, multi-modal fusion, and self-attention
- Tech Stack: Python, PyTorch, Scikit-learn

AWARDS, ACHIEVEMENTS AND LEADERSHIP ROLES

- Amazon Doctoral Fellowship, **2021-22** – Tuition and Stipend
- Electrical and Computer Engineering (ECE) Departmental Fellowship, **2018-19** – Tuition and Stipend
- Travel Grant, USENIX Security 2021
- Graduate Student Association (GSA) Presidential Service Award, **2020-21**
- Semi-finalist, UCLA Grad Slam, **2020**
- Served as the Elections Commissioner / Attorney General for the GSA, 2 terms, **2020-22**
- Founding committee, ECE mentor of the year award that is awarded to the best mentors in the department, **2021**
- Dean's List for academic achievement, IIIT-D, **2017**
- First Prize, Innovation Challenge, Innovation Challenge (IIIT-D), **2017**
- National Talent Search (NTSE) Scholar, Government of India, **2010**

SELECTED PUBLICATIONS ([GOOGLE SCHOLAR](#) [↗](#))

[CVPR 2023] Depth Estimation from Camera Image and mmWave Radar Point Cloud

[Usenix Security 2021] I Always Feel Like Somebody's Sensing Me! A Framework to Detect, Identify, and Localize Clandestine Wireless Sensors

[mmNets 2019] RadHAR: Human Activity Recognition from Point Clouds Generated through a Millimeter-wave Radar

[ACM Sensys 2020] UWhear: Through-wall Extraction and Separation of Audio Vibrations using Wireless Signals

[JAMIA 2021] On collaborative reinforcement learning to optimize the redistribution of critical medical supplies throughout the COVID-19 pandemic

[ICC 2022] Self-Supervised Radio-Visual Representation Learning for 6G Sensing

[Nature SR 2022] Temporal convolutional networks and data rebalancing for clinical length of stay and mortality prediction

TECHNICAL SKILLS

Languages: [Proficient: C, Matlab, Python]; [Prior Experience: Embedded C, Spice, JavaScript]

Frameworks: PyTorch, TensorFlow, Keras

Tools: [Proficient: Git, GNU Radio, Wireshark, LabView, AngularJS, Bootstrap]; [Prior Experience: Cadence Virtuoso, Eldo Spice, Advanced Design System, LTSPice, Hostapd, iPerf, NodeJS]