Dr. Vivek Adarsh

Contact

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Education

University of California, Santa Barbara
Doctor of Philosophy (Ph.D.), Computer Science **July 2022**

Thesis: Autonomous and Predictive Systems to Enhance the Performance of Resilient Networks
Advisor: Prof. Elizabeth Belding

University of California, Santa Barbara
Master of Science (M.S.), Computer Science **June 2018**

University of Pune
Bachelor of Technology (B.Tech), Electrical Engineering **June 2016**

Professional Experience

Chief Executive Officer - AviAI, Inc. **Aug 2022 - Present**
AviAI's Operational Intelligence Platform uses AI/ML to enable 10X faster decision-making for Airlines
Responsibilities: Product development, Sales, and Fundraising

Research Associate - Hewlett Packard Labs **Jun 2021 - Sep 2021**
Networking and Distributed Systems Lab
Project - SmartFabric: AI-Acceleration on the Fly using DPUs

Graduate Research Assistant
University of California, Santa Barbara **Mar 2017 - Jul 2022**
Department of Computer Science

Research Associate - Hewlett Packard Labs **Jun 2020 - Sep 2020**
Networked Systems Group
Project - SARAS: Intelligent Edge Acceleration using SmartNICs

Software Engineer Intern - LogMeIn Inc. **Jun 2018 - Sep 2018**
Predicting cloud infrastructure failures and automated troubleshooting using DeepLearning models.

Research Intern - NVIDIA Singapore **Jan 2015 - Apr 2015**
Automated extraction and conversion of unstructured video metadata to structured data (U2S) using parallel computing (Pascal architecture).

Patents & Inventions

Directing Queries to Worker Nodes of a Cluster of a Container Orchestration Platform Distributed across a Host System and a Hardware Accelerator of the Host System
Diman Zad Tootaghaj, Anu Mercian, **Vivek Adarsh**, Puneet Sharma.
US Patent 11436054B1

Press & Media Coverage

- ***Millions of Americans can't get broadband because of a faulty FCC map. There's a fix.***
  By Shara Tibken, CNET. February 19^{th} 2021.
  (CNET has the world's highest readership among Web news sites, with more than 200 million readers per month.)
  Available here: `https://www.cnet.com/features/millions-of-americans-cant-get-broadband-because-of-a-faulty-fcc-map-theres-a-fix/`
- ***Networking and Distributed Systems Lab's intern wins Best in Class for summer project.***
  By Curt Hopkins, Hewlett Packard Labs. September 24^{th} 2020.
  Available here: `https://community.hpe.com/t5/Advancing-Life-Work/Networking-and-Distributed-Systems-Lab-s-intern-wins-Best-in/ba-p/7102384#`

Awards & Recognition

- 2^{nd} Runner-up, New Venture Startup Competition **2021**
- Won the *Best in Class* competition among 400 interns at Hewlett Packard Enterprise (international competition) **2020**

Refereed Publications

[1] **Characterizing Internet Access and Quality Inequities in California M-Lab Measurements**
Paul, Jiamo Liu, David Farias-llerenas, **Vivek Adarsh**, Arpit Gupta, Elizabeth Belding
ACM Conference on Computing Systems and Sustainable Societies **(COMPASS 2022)**

[2] **Too Late for Playback: Estimation of Video Stream Quality in Rural and Urban Contexts**
Vivek Adarsh, Michael Nekrasov, Udit Paul, Alex Ermakov, Arpit Gupta, Morgan Vigil-Hayes, Ellen Zegura, Elizabeth Belding
Proceedings of the Passive and Active Measurement Conference (**PAM '21)**

[3] **Characterizing Performance Inequity Across U.S. Ookla Speedtest Users**
Udit Paul, Jiamo Liu, **Vivek Adarsh**, Mengyang Gu, Arpit Gupta, Elizabeth Belding
arXiv preprint arXiv:2110.12038

[4] **Estimation of Congestion from Cellular Walled Gardens using Passive Measurements**
Vivek Adarsh, Michael Nekrasov, Udit Paul, Elizabeth Belding
IEEE Transactions on Mobile Computing.

[5] **Coverage is Not Binary: Quantifying Mobile Broadband Quality in Urban, Rural, and Tribal Contexts**
Vivek Adarsh, Michael Nekrasov, Udit Paul, Tarun Mangla, Arpit Gupta, Morgan Vigil-Hayes, Ellen Zegura, Elizabeth Belding
Proceedings of the IEEE 30th International Conference on Computer Communications and Networks (**ICCCN '21)**

[6] **A Tale of Three Datasets: Towards Characterizing Mobile Broadband Access in the United States**
Tarun Mangla, Esther Showalter, **Vivek Adarsh**, Kipp Jones, Morgan Vigil-Hayes, Elizabeth Belding, Ellen Zegura
Communications of the ACM **(CACM)**

[7] **Packet-level Overload Estimation in LTE Networks using Passive Measurements**
Vivek Adarsh, Michael Nekrasov, Ellen Zegura, Elizabeth Belding
Proceedings of the Internet Measurement Conference **(IMC '19)**

[8] **#Outage: Detecting Power and Communication Outages from Social Networks**
Udit Paul, Alex Ermakov, Michael Nekrasov, **Vivek Adarsh**, Elizabeth Belding
Proceedings of the World Wide Web Conference **(WWW '20)**

[9] **MPTCP Performance over Heterogeneous Subpaths**
Vivek Adarsh, Paul Schmitt, Elizabeth Belding.
IEEE 28th International Conference on Computer Communication and Networks **(ICCCN '19)**

[10] **Evaluating LTE Coverage and Quality from an Unmanned Aircraft System**
Michael Nekrasov, **Vivek Adarsh**, Udit Paul, Esther Showalter, Ellen Zegura, Morgan Vigil-Hayes and Elizabeth Belding
IEEE 16th International Conference on Mobile Ad Hoc and Sensor Systems **(MASS '19)**

Invited Talks

- **Decoding Cellular Walled Gardens**
  Google Inc. (NetInfra Team) — February 2020

Professional Services

- Technical Program Committee, ACM SIGCOMM Artifact Evaluation Committee — 2021
- External Reviewer, IEEE Wireless Communications and Networking Conference (WCNC) — 2021
- External Reviewer, IEEE Wireless Communications Letters Journal — 2020
- Judge, SB Hacks VII (UCSB's Annual Hackathon Competition) — 2021

Student Mentorship

– [Research Project] A study of QoE-estimation models
  - **Khalid Mihlar** (BS, Computer Science, UCSB)

– [Research Project] Edain: A Comprehensive Network Monitoring Suite
  - **Anurag Bansal** (BS, Computer Science, IIT Roorkee)
  - **Jitesh Jain** (BS, Computer Science, IIT Roorkee)
  - **Ria Elizabeth John** (BS, Computer Science, IIT Roorkee)

– [Research Project] Quantifying Video Streaming Quality on Mobile Broadband
  - **David Weinflash** (MS, Computer Science, UCSB)

Teaching

- Introduction to Computer Networks (CMPSC 176A) — Spring 2019
- Computer Networking (CMPSC 176B) — Winter 2019
- Introduction to Computer Networks (CMPSC 176A) — Fall 2018
- Introduction to Computer Networks (CMPSC 176A) — Spring 2018
- Computer Networking (CMPSC 176B) — Winter 2018
- Introduction to Computer Networks (CMPSC 176A) — Fall 2017
- Advanced Topics in Internet Computing (CMPSC 176C) — Spring 2017