Ashwin Sekhari

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Education

University of California, Davis — Davis, CA
M.S. in Computer Science, GPA: 4.0/4.0 — Sept 2021 – June 2023

National Institute of Technology, Rourkela — India
B.Tech in Computer Science and Engineering, GPA: 3.7/4.0 — Aug 2017 – June 2021

Experience

Software Development Engineer - AWS Lambda — July 2023 – Curr
Amazon.com — Amazon Web Services — Seattle, WA

Graduate Student Researcher — Sept 2021 – June 2023
University of California, Davis — Advisor: Prof. Prasant Mohapatra — Davis, CA

- Explored the adversarial robustness of deep clustering models and published the **first black-box attack** on deep clustering models. The attack uses **Generative Adversarial Networks (GANs)** to generate adversarial noise, which, when added to benign images, results in a $\geq$**99% performance drop** for SOTA deep clustering models.
- Presented the research titled "On the Robustness of Deep Clustering Models: Adversarial Attacks and Defenses" at the Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS 2022) held at New Orleans, Louisiana.

SDE Intern - Amazon AI — June 2022 – Sept, 2022
Amazon.com — Amazon Web Services — Seattle, WA

- Developed as a part of AWS SageMaker Training team a **scalable and reliable system** (called Resource Janitor) to automate cleanup for leaked resources for failed managed Machine Learning training jobs.
- Resource Janitor can **successfully handle 1000s of failed jobs** and, as a result, improves customer experience, saves valuable dev hours and cost to AWS, and plays a crucial role in maintaining the SageMaker Training platform healthy.

Engineer - API Server — July 2021 – Aug 2021
Udaan.com — Technology and Product Unit — India

- Improved the health of the API Server (handling 500k requests per minute) at **Udaan.com: India's fastest growing unicorn startup / B2B e-commerce platform.** Identified degradations and abnormal behavior.
- Repaired and migrated several high-traffic APIs (handling 30-40% of total traffic) to **Kotlin Coroutines** and prevented them from blocking the application's main thread which resulted in 20% reduction in latency.

Winner at EtherPunk'21 Hackathon — Jan 2021 - March 2021
DeFlix — Ethereum Based Pay-as-you-watch Streaming Platform — Global

- Developed, as a part of a global Hackathon, a pay-as-you-watch streaming platform along with easy streaming license management using **ERC-721 based Non Fungible Tokens (NFTs).**
- Won "**Best Application**" title by Superfluid ($1000), and "**1st place**" by Portis ($500).

Internship — May 2019 - July 2019
University of Waterloo — A Secure Scalable Quantum-Safe Blockchain for Critical Infrastructure — Canada

- Collaborated with Prof. Srinivasan Keshav and implemented a **distributed byzantine fault tolerant Global Membership Service (GMS)** based on RCanopus protocol. System built using Concord-BFT (VMWare).
- **Deployed the service** on University of Waterloo's local compute cluster. Achieved average read latency and write latency of 5-6 ms and 13-16 ms respectively.

Skills

Technical Languages: Python, C/C++, SQL, JavaScript, HTML/CSS, Go, Kotlin, Java
Developer Tools: React, Flask, Git, Docker, Google Cloud Platform (Skill Badges), CouchDB, IntelliJ IDEA, AWS
Communication: English (fluent), Hindi (native), Punjabi (spoken)
Soft Skills: Leadership (Student Mentor (3 years), Technical Lead (Competitive coding club)), Teamwork (Google DSC)

Publications

[1] **On the Robustness of Deep Clustering Models: Adversarial Attacks and Defenses** (NeurIPS 2022)
[2] **Updatable Clustering Using Patches** (UpML-ICML 2022)
[3] **Entangled Blockchains in Land Registry Management** (Feb 2019)

- Presented at *Workshop on Blockchain Technologies and its Applications* at IIT Bombay, India.
- Poster at *Advanced School in CSE: Blockchains and Cryptocurrencies* at IIAS, Israel (Dec 2018).