

ARYAN TANEJA

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Education

University of Illinois, Urbana-Champaign (UIUC)

Aug 2024 - May 2026

Master of Science in Computer Science (fully-funded thesis track)

IIIT Delhi

July 2019 – Jun 2023

Bachelor of Technology in Computer Science and Engineering

GPA: 9.32/10.0

Technical Skills

Language: Java, Python, C, C++, MATLAB, HTML, CSS, Javascript, SQL

Tools: Docker, Git, PyTorch, TensorFlow, NumPy, Pandas, Langchain, vllm, huggingface-transformers, gpt-tools, nltk, FastAPI, MongoDB, React.js, Node.js, Django, Flask, cuda-toolkit (nvidia-smi tools), wireshark, Ffmpeg, yolo, OpenCV, scikit-learn, L^AT_EX, Jupyter, Linux, mySQL, AWS, Unix

Selected Courses: Advanced Machine Learning, Data Structures & Algorithms, Advanced Programming, Database Management Systems, Computer Networks & Security, Information Retrieval, Cloud Computing

Work Experiences

Research Fellow, Microsoft Research

Feb'23 – Aug'24

Mentors: [Venkat P.](#), [Rohan G.](#) | Systems+ML (LLM optimizations)

Bangalore, India

- Optimised vllm-based systems to serve, schedule, migrate and load balance **LLM inference requests** for cost and GPU throughput efficiency (**upto 34%**). Implemented KV cache management & migration module for efficient global routing
- Implemented a **kernel level service** which used real-time network to improve throughput by **120%** by optimising congestion control for LEO Network based systems. Currently being modified for integration in **Azure Space stack**

Research Intern, Microsoft Research

Feb'22 – Jun'22

Mentor: [Debopam B.](#) | Network Performance Optimisation & Analysis | [Paper@HotNets'24 \(Boston,USA\)](#)

Bangalore, India

- Used **Sentiment Analysis, Computer Vision, implicit and explicit user signals** like presence, activity, engagement for User and Network Performance Modelling for Starlink, Xbox-forza (Azure Cloud) and Microsoft Teams

SDE Intern, MathWorks India

Jun'22 – Aug'22

Full-stack Development

Bangalore, India

- Implemented a violation tracking system for Polyspace MISRA tool. Deployed the feature to production which improved the code compilation efficiency by **196%** and wrote the software requirement documentation.

Selected Projects

LEOScope : an open source global-testbed for LEO Networks

Jan'23 – present

Docker | grpc | FastAPI | ReactJS | Node.JS | [website](#), [code](#), [paper](#)

Microsoft Research

- Built (full-stack), deployed and maintaining **LEOScope, (public release)** with a cloud orchestrator and geodistributed node machines to run **containerised dockerised** systems+networking jobs for Starlink at scale.

Optimising Video Streaming with Edge Computing

May'21 – Jul'23

Ffmpeg | Yolo/Open-CV | Jetson Nano | [Patent Accepted, USENIX ATC'24 \(CA, USA\), Best Paper Award](#)

IIIT-Delhi

- Developed a system for efficient real-time video surveillance by tile sampling on edge devices. Used bitrate changes in HEVC/H.265 encoded video streams as a measure to detect objects accurately (**upto 92%**), remove regions in frames to reduce data transmission by **upto 40%** and decrease computational dependency for scalable deployments in smart cities

Automated text-extraction and grade report generation

Dec'20 – Dec'21

MongoDB | Django | HTML | CSS | React.JS | nltk, ocr

IIIT-Delhi

- Built a **full-stack system** to extract messages and images using OCR and directly evaluate language errors using existing models. Stored user history as database to track temporal student performance and recommend actions

Other projects (detailed sections on [website](#))

(1) [Course Recommendation System](#), Hostel Facilities+Staff Management System (2) [Color Switch Game Implementation](#) (3) Modifying Linux Scheduler, Custom Kernel Module (4) Autonomous Driving Estimation using Multi Agent Reinforcement Learning (5) [UI/UX of Mental Well-being App](#) (6) [Breast Cancer Detection](#) (7) [Smart IoT Home for well being](#)

Selected Achievements ([more on website](#))

(1) Co-authored **1 Patent and 6 publications** at top conferences, (2) Awarded **Dean's award for academic excellence** thrice and multiple **scholarships** (**Chanakya Fellowship for Research** by Govt. of India, **JNTE** by TATA, State Science Scholarship), (3) Qualified for Indian National Mathematics Olympiad (2017) (**Top 30/10000**), (4) Active in **Debating, Public Speaking** and Technical Clubs (Student Lead - **ACM & IEEE** Student Chapter IIITD)