

VARUL SRIVASTAVA

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Education

IIIT Hyderabad

Jul 2019 – Jul 2024

B.Tech. and M.Sc. by Research in Computer Science and Engineering — CGPA 9.65 (Gold Medalist) Hyderabad, India

Dean's List 2019-23 for performing in the **top 5%** candidates of the batch.

Research Award 2023 for outstanding research and publication during undergrad.

Teaching Assistant for Algorithm Analysis and Design, Game Theory, Blockchain, Fairness Privacy and Ethics in AI.

St. Joseph's College, Prayagraj

May 2019

CISCE Intermediate (Class 12th) in Mathematics & Computer Science — Score 98.75% (Valedictorian) Prayagraj, India

Experience

Google Deepmind

August 2025-present

Pre-Doctoral Researcher

Bangalore, India

- Solving problems in Health using AI using RL to improve performance on Abductive Reasoning.
- Contributing to improving Gemini and Embeddings models on Image-to-Text for Health and Report type of queries.

Oracle

Jul 2024-August 2025

Application Developer

Hyderabad, India

- Developed supply-chain planning products in Oracle Fusion SCM Cloud—part of a platform holding $\approx 2\%$ of the global SCM market and **used by 248+ enterprises with 10k+ employees**—enabling executive-level demand-supply alignment and real-time planning insights.
- Developed **AI agentic workflow** for *root-cause analysis* in supply chain (replenishment) plans, suggesting plan fixes—boosted planner productivity by 30–50%.

Microsoft Research

Apr 2024 - Jun 2024

Research Intern

Bangalore, India

- Designed an **LLM-driven superoptimizer** for C compilers, surpassing basic-block limits of SOTA compilers, leveraging SIMD and AVX routines achieving **20 \times runtime speedup** over LLVM-O3 on SPEC benchmarks.

Machine Learning Lab (MLL)

Aug 2021 – Jul 2024

Research Assistant

Hyderabad, India

- Architected distributed-system protocols with improved resilience under rational attacks — raising fault tolerance by $\approx 20\%$; thereby enhancing *security* and *uptime* of distributed systems.

Game Theory

Jan 2024 – Mar 2024

Machine Learning Engineer

Hyderabad, India

- Engineered a machine learning-driven user-rating and matchmaking algorithm, improving match **accuracy by 18%** and **boosting user engagement** via predictive modeling, real-time data processing, and algorithm development.

JP Morgan Chase & Co. (Academic Collaboration)

Jul 2023 – Dec 2023

Student Researcher

Hyderabad, India

- Proposed a novel training method for private federated learning with upto 40% accuracy gains over existing frameworks.
- Published resultant research work in AIML Systems 2025.

Awards & Achievements

- Distributed Systems and ML Research with **7 papers** published in **A/A* conferences and workshops** and **2 papers** under review along with **1 US patent** filed. Complete profile on Google Scholar
- Rank 127th **out of 2500+** qualified teams in the 45th **ICPC South-West Asia Regionals** .
- Secured 531st (**Stage 1**) and 1287th (Stage 2) out of 3000+ teams in WorldQuant's **IQC** — a global, quant finance competition developing alpha strategies on U.S. and Chinese historical market data.
- Awarded **best technical implementation** for the SummerUp hackathon for database-leak tolerant authentication system with 10⁸ **times** improved security .
- Felicitated by Hon'ble governor for the *highest academic score* in Prayagraj in CISCE Mathematics & CS.

Projects

Distributed Consensus with Network Simulator | *Distributed Systems*

- Optimized the pBFT consensus algorithm by introducing *reputation-based dynamic-leader selection* causing a **3x throughput increase** — tested on a network simulator, replicating real-world latency. ↗

RaGEx: Retrieving Information for Workflow Automation | Oracle Hackathon

- Engineered a **RAG based Multi-Agent LLM** based tool to automate Medical Product Recall.
- Used LangChain and Llama 3.1 to automate query-response for unstructured documents of size 2+ GigaBytes.

Crash: Crazy shell | *C/C++, Linux, Operating Systems*

- Built a Unix shell using inter-process communication, custom signal handling, I/O redirection, as well as error handling via raw Linux system calls and an SSH-type encrypted communication protocol for remote server access.↗

OpenGL Game — Pennywise Among US | *Computer Graphics Course Project*

Mar 2021 - Apr 2021

- Implemented a C/C++ and OpenGL (graphics) based production of popular game Among US with a twist. ↗

Racket Compiler | *Racket, Functional Programming, Compiler Design*

Feb 2023 - Apr 2023

- Developed a nano-pass compiler for a subset of racket instruction set (including vectors) with efficient register allocation using greedy graph coloring and other optimizations like tail-call optimization. ↗

Publications and Patents

- 1 Robust In-Context Learning via Multi-Armed Bandit-Based Partition Selection ↗ DataFM@ICLR 2025
Singapore
Varul Srivastava, Sankarshan Damle, Manisha Padala
- 2 Towards Rational Consensus in Honest Majority ↗
- 3 Efficient Training Strategies for Local Differentially Private Federated Networks ↗ AIML Systems, 2025
Bangalore, India
Uday Bhaskar K, **Varul Srivastava**, Avyukta V, Naresh Manwani, Sujit Gujar
Varul Srivastava, Sujit Gujar IEEE ICDCS, 2024 **Varul Srivastava** & Sujit Gujar New Jersey, USA
- 4 No Transaction Fees? No Problem! Achieving Fairness in Transaction Fees Mechanism Design ↗ ECAI 2024
Sankarshan Damle, **Varul Srivastava** Sujit Gujar Santiago de Compostela, Spain
- 5 Decent-BRM: Decentralization through Block Reward Mechanisms ↗ AAMAS 2024
Auckland, New Zealand
Varul Srivastava, Sujit Gujar
- 6 Centralization in Proof-of-Stake Blockchains↗ GAIW@AAMAS 2024
Auckland, New Zealand
Varul Srivastava, Sankarshan Damle, Sujit Gujar
- 8 QuickSync: A Quickly Synchronizing PoS-Based Blockchain Protocol ↗ IEEE ICBC 2023
Dubai, UAE
Shoeb Siddiqui, **Varul Srivastava**, Raj Maheshwari, Sujit Gujar
- 9 *System and method for securing a Proof of work-based blockchain using game theory*
US Patent Application No. 18/402598

Volunteering

Administrator for IIIT Ripple-CoE Validator | Web Administrator for Machine Learning Lab (MLL) website | Mentor for Solidity Development for Blockchain course by Talentsprint.