Allen George Ajith

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EDUCATION

New York University, Courant Institute of Mathematical Sciences   2024 – 2026
MS in Computer Science   *New York, NY*

Relevant Courses: Deep Learning (by Prof. Yann LeCun), Natural Language Understanding and Computational Semantics (by Prof. Tal Linzen), Computer Vision for Science and Engineering (by Prof. David Fouhey)

Cochin University of Science and Technology   2019 – 2023
*B.Tech. in Computer Science and Engineering - **GPA: 9.24/10***   *Kerala, India*

Relevant Courses: Machine Learning, Algorithms & Data Structures, Linear Algebra & Calculus II, Operating Systems

SKILLS

Programming & Frameworks: Python, PyTorch, TensorFlow, scikit-learn, Hugging Face, C++, SQL, Solidity
Tools & Platforms: Docker, Kubernetes, GCP, Azure, FedML, Git, NumPy, pandas, FastAPI

EXPERIENCE

Research Assistant   Aug. 2024 – Present
NYU, Courant Institute of Mathematical Sciences   *New York, NY*

- Co-developing a multi-model FX trading system with BiLSTM-Attention, N-BEATS, and Temporal Convolution Network architectures under Dr. Dennis E. Shasha.
- Extracted market signals from financial news using LLMs fine-tuned via PEFT, knowledge distillation, and LoRA for low-latency inference.

AI Intern   Jun. 2022 – Dec. 2022
Hitachi Solutions India Pvt. Ltd.   *Chennai, India*

- Built a simulated cross-silo federated learning system using FedML, achieving 12.7% faster convergence through hybrid FedAvg algorithms and Epsilon Differential Privacy, with 95.8% accuracy retention.
- Designed and evaluated privacy-preserving model training across organizational silos using 8-bit gradient quantization and SHA-256 encrypted parameter sharing.

SELECTED PUBLICATIONS

Ajith, A. G., et al., Exploratory Analysis of Link Prediction and Sampling of Social Networks   Jul. 2023
The International Conference on Green Energy, Computing and Intelligent Technology

PROJECTS

Blockchain E-Tender System | *Solidity, Circom, Javascript*   Dec. 2022 – Mar. 2023

- Architected a decentralized Sealed Bid Tender system on Polygon Network using Zero Knowledge Proof circuits and Solidity smart contracts, featuring automated winner selection and real-time bid tracking user interface.

CMLFormer | *PyTorch, Hugging Face Transformers*   Jan. 2025 – May 2025

- Co-developed a dual-decoder Transformer with synchronized cross-attention and a shared encoder, designed to capture syntactic and semantic transitions in code-mixed Hinglish text.
- Developed and implemented novel pretraining objectives on annotated HingCorpus Dataset, achieving achieving a 73% relative F1 score improvement over BERT on HASOC-2021

LEADERSHIP AND VOLUNTEERING

Google Developer Students Club, CUSAT | *Team Lead*   May 2021 – Jul. 2022

- Guided a community of **200+** students, organizing weekly technical workshops, hackathons, and mentorship programs in web development, ML, and cloud computing and established project-based learning tracks, peer programming initiatives, and industry connect events, resulting in **30%** increase in student participation.

CERTIFICATIONS

Google Cloud Skills: Data Engineering, DevOps, Machine Learning
Toastmaster's International: Competent Communicator, Competent Leader