Abhinav Siddharth Tanniru

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EDUCATION

International Institute of Information Technology, Hyderabad July 2025
B.Tech (Honors) + Master of Science, Electronics **9.0**

EXPERIENCE

ideaForge Dec. 2025 – Present
R&D Software Engineer Mumbai

- Worked on payload integration and imaging workflows for drone mapping and surveying applications, including camera triggering, synchronization, data integrity, and calibration across diverse camera payloads.
- Improved mapping accuracy and reliability of 3D reconstruction through software and firmware enhancements.

MindLabs Aug. 2025 – Nov. 2025
Software Engineer Hyderabad

- Developed scalable web apps using MERN stack, optimizing frontend performance and backend APIs.

Qualcomm Feb. 2025 – Aug. 2025
Systems Engineer Intern Bangalore

- Conducted objective (PSNR, SSIM) and subjective image quality evaluations across diverse images and lighting and noise conditions. Benchmarked multiple codecs for image transmission, analyzing computational efficiency.
- Collaborated with hardware team, showcasing 10-15% IQ gains, while reducing AR/VR power requirements.

ProFinTech Technologies Feb. 2024 – Jul. 2024
Data Science Intern Hyderabad

- Built a pipeline for GST returns data (retrieval, preprocessing, storage), improving efficiency and documentation. Optimized GST data collection processes leading to at least 30% reduction in costs.
- Led the transition of an API from a monolithic architecture to a service-oriented design pattern.

Computer Systems Group, IIIT-H, Research Assistant Jan. 2022 – Jul. 2025

- Conducted research on Vehicular Edge Computing (VEC), with RL and deep learning applications in embedded and IoT systems. Teaching Assistant: **Applied Optimization, Real Analysis, and Linear Algebra.**

PUBLICATIONS

- Partitioned Scheduling over RSU for Computation Offloading in VEC, **IEEE VTC-Fall 2024**, Washington.
- HAPTA: Adaptive Learning based Computation Offloading in VEC, **IEEE VTC-Spring 2025**, Oslo.
- Towards Energy-Aware Operational Decisions for Automated Guided Vehicles. **ITU Journal on FET 2025.**

PROJECTS

Machine Learning Model of California Housing Data using Python: GitHub

- Executed end-to-end machine learning that predicts housing costs using the California census data.
- Involved implementing a machine learning pipeline consisting of data retrieval, pre-processing, and modeling.

E-Learning Platform: GitHub

- Built an E-Learning app using the MERN stack with role-based access, JWT authentication, and Redis caching.
- Designed dashboards with real-time updates and data visualizations for tracking progress.

Cross-Language Translation with seq2seq Model in PyTorch: GitHub

- Developed a language translation utilizing a Seq2Seq model with a GRU-based encoder-decoder architecture.
- Employed a GRU decoder allowing translation between two languages and integration with any language.

SKILLS

- **Programming:** Python (PyTorch, scikit-learn, TensorFlow, Keras), C, C++, C#, Java, Embedded C.
- **Web & Frameworks:** JavaScript (MERN: MongoDB, Express, React, Node.js), AngularJS, HTML, CSS.
- **Databases & Tools:** AWS, DynamoDB, PostgreSQL, Redis, Redis Graph, SQL, MATLAB, Docker, Hadoop.