

Pragyna Abhishek Titty

pragynaabhishek2013@gmail.com | +1 (352) 328-0776 | abhi.works | linkedin.com/in/abhi-titty-374109209

SKILLS

- **Languages:** Python, Swift, C++, Java, Gleam, Go, SQL
- **ML & Systems:** PyTorch, TensorFlow, RAG, Quantization, Distributed Systems, Actor Model / OTP
- **Embedded & Backend:** Embedded ML, REST APIs, PostgreSQL, Docker, Kubernetes
- **Cloud & CI/CD:** Jenkins CI/CD, AWS, GCP, Git

EXPERIENCE

- **University of Florida** Gainesville, FL
Graduate Research Assistant Aug 2025 – Present
 - **Hardware Security Research:** Developed MEMS-based reconfigurable obfuscation techniques for secure PCB substrate interconnects under Dr. Navid Asadi, resulting in an IEEE ECTC 2026 publication; also contribute to DFI (Design for Inspection) research on 2.5D packages, with more publications in preparation
- **University of Florida** Gainesville, FL
Head Teaching Assistant, Programming Language Principles (COP5556) Mar 2026 – May 2026
 - **Instruction & Assessment:** Served under Dr. Alin Dobra assessing 200+ ANTLR/LLVM compiler and interpreter implementations for correctness and design quality, and held office hours for students
- **Defence Research and Development Organisation** Visakhapatnam
Artificial Intelligence Intern May 2023 – Jul 2023
 - **Embedded ML Deployment:** Built and deployed a full object detection pipeline through ARM Cortex-M embedded hardware via ONNX, achieving a 4.1x speedup and 6x size reduction while improving accuracy 12.76% under strict constraints; validated with cross-target benchmarking before production

PROJECTS

- **Oblique:** A production-grade LLM system that rewrites AI-generated text to read more human, implementing a peer-reviewed finding that AI writing differs from human writing structurally, not just in word choice; engineered with rate-limited API handling and a batch evaluation harness that gates every change on pairwise win rate against a baseline. (Jul '26)
- **Graph-RAG:** Combined dense embeddings, BM25, and Personalized PageRank into a hybrid retrieval pipeline over 1,059 Wikipedia pages, confirming a 38% relative diversity gain on multi-hop queries via a Recall@k/MRR@k evaluation. (Dec '25)
- **Gleam/OTP Content Engine:** Architected a Reddit-style platform with actor-per-entity design and OTP supervision trees; benchmarked near-linear scaling from 16 to 128 clients, zero restarts. (Aug '25 – Dec '25)
- **Nova Bloom:** Engineered a solo iOS computational-photography app (SwiftUI, AVFoundation, Vision) with a hybrid GCD/async-await concurrency model; shipped a RAW finishing pipeline to production, with a full multi-frame fusion pipeline from published research built alongside it. (Dec '25)

EDUCATION

- **University of Florida** Gainesville, FL
Master of Science in Computer Science Aug 2024 – May 2026
- **GITAM University** Visakhapatnam
B.Tech, Electronics & Communication Engineering (AI/ML) Sep 2020 – Apr 2024

PUBLICATIONS

- **Substrate-CLOAK: A MEMS-Enabled Reconfigurable Obfuscation Framework for Secure Substrate Interconnects**, IEEE ECTC 2026, Fourth Author – Intel Outstanding Student Paper Award & ECTC Student Travel Grant Award recipient

LEADERSHIP & AWARDS

- **Technical Co-Director, UF AI Club** Gainesville, FL
Led technical projects and workshops; mentored student builders Dec 2025 – Apr 2026
- **Vice President, AGROW GITAM** Visakhapatnam
Scaled the science and technology club from 4 to 48 members across five teams Jun 2021 – Aug 2023
- **Award Celebrating Excellence** Visakhapatnam
GITAM University – for leadership that pushed teams to their best performance Jun 2022