PRANAV DULEPET

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EDUCATION

B.S. in Computer Science - Machine Learning, University of Maryland, College Park   Expected Dec 2024
Honors: Dean's List
Programs: QUEST Honors (Quality Enhancement Systems and Teams), FIRE (First-Year Innovation and Research Experience) - Capital One Machine Learning Track

SKILLS

Languages/Technologies	Python, Java, C, Swift, MIPS, JavaScript, HTML, CSS, Git, AWS, TensorFlow
Libraries/Frameworks	Keras, FastAPI, Pandas, MongoDB, Firebase, SQLite, React, Seaborn, Z3

EXPERIENCE

Machine Learning Intern   Jan 2023 - Present
Capital One   *College Park, MD*
- Researching and implementing similarity search framework for embeddings as part of the Enterprise Graph Services Team
- Using Python, scikit-learn, Node2Vec, Graph Machine Learning

Undergraduate Researcher   Jan 2023 - Present
Perceptual Interfaces and Reality Laboratory at UMD   *College Park, MD*
- Conducting LiDAR and spatial audio research to map enclosed spaces using audio waves under Prof. Ramani Duraiswami
- Using Swift and Apple LiDAR devices

Software Engineer Intern   Jun 2022 - Aug 2022
Evozyne   *Chicago, IL*
- Researched and implemented SMT solvers (Z3) in Python to decrease runtime of modeling the Gene Synthesis process by 5x while maintaining precision
- Visualized Gene Synthesis data to determine where the current model lacked efficiency and precision using ligation matrices, statistical fidelity, and Seaborn plots
- Presented findings and work to upper management
- Utilized Python, SMT Solvers, Algorithm Design, Seaborn, Pandas

Software Engineer   Sep 2021 - Present
Hack4Impact   *College Park, MD*
- Developed Case, Service, Beneficiary Creation workflows for non-profit, Edu-Futuro as a project Tech Lead
- Implemented Dashboard and messaging portal for non-profit, Step Up Tutoring as a project Tech Lead
- Utilized React, Node.js, Firebase

PROJECTS

College RO *Swift, SwiftUI, Python, Node.js, Rest APIs, MongoDB, AWS, Google/Firebase Analytics*
Launched CollegeRO on the App Store helping college students find research opportunities, reaching a peak of 1k app units. [(link)](#)

LegalAI *Python, scikit-learn, spaCy, Elasticsearch, Textacy, Blackstone, pytextrank*
Trained and tested documents from the Supreme Court and other legal groups to apply NLP techniques such as Classification, Similarity, Summarization. Implemented TF-IDF, LDA, BM25, textrank, etc. units. [(link)](#)

Things Near Me *Full-Stack iOS Development, Swift, UIKit, Firebase*
Developed Things Near Me, for people to share the availability of supplies in the neighborhood, reaching a peak of 1.6K app units. [(link)](#)

Aerial Object Detector *Python, YOLOv5, PyTorch, Google Colab, GitHub*
Developed a prototype of a model that classifies harmful and non-harmful objects in the air. Won **1st place** at the Northrop Grumman Innovation challenge at the University of Maryland. [(link)](#)

ML Health App *Large Language Models, Python, SwiftUI, Swift, AWS, MongoDB, Google/Firebase Analytics*
Developed model to provide dynamic and personalized health plans for users. Mobile app coming soon.