VINAMR PEMMARAJU

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United States Citizen with DoD Secret Security Clearance

EDUCATION

University of Maryland, Clark School of Engineering - QUEST Honors Program

Bachelor of Science, Computer Engineering   *Grad. Date: May 2025*

- **Relevant Coursework:** Applied Quantitative Analysis, Object Oriented Programming I and II, Adv. Data Structures, Statistics, Algorithms, Computer Systems, Linear Algebra, Computer Architecture, Discrete Structures

EXPERIENCE

Northrop Grumman - *Software Engineering Intern*   Baltimore, MD May 2024 - Aug 2024

- Built a full stack Python graphical user interface to simplify executable actions on Java and C++ programs
- Extracted information from YAML config files, and used Python's tkinter package for frontend framework

Alpine Rewards - *Technology Consultant*   College Park, MD Jan 2024 - May 2024

- Applied FreshBooks API and Excel VBA to develop an Automated Dashboard Generator (ADG)
- Reduced a 10 hour monthly invoicing process by 90% by automating data transfers from Freshbooks to Excel

University of Maryland ECE Department - *Teaching Assistant*   College Park, MD Jan 2024 - May 2025

- Led a weekly discussion for ENEE200 covering engineering case studies and ethical practices with 30+ students

Northrop Grumman − *Software Engineering Intern*   Baltimore, MD May 2023 - Aug 2023

- Enhanced MATLAB flight orientation programs by rewriting scripts to increase usability on 10 systems
- Refactored 10,000+ lines of MATLAB code into 20+ subfunctions to make code flexible and easier to debug
- Implemented sorting algorithms on functions found in simulation scripts to increase run-time efficiency

Union Station Homeless Services - *Technology Consultant*   College Park, MD Jan 2023 - May 2023

- Used Pandas to filter data sets, clean 500,000+ empty & duplicate entries, and restructure donor information
- Built linear regression models to visualize donor data patterns using Matplotlib, and presented models to the client

PROJECTS

Embedded Face Detection System - *Software Engineer*   College Park, MD Mar 2025 - May 2025

- Designed using Viola-Jones algorithm and written in C++. Features custom AdaBoost-based cascade training
- Accelerated classifier training with multithreaded feature selection and implemented dataflow-based models

MicroCaml Engine - *Software Engineer*   College Park, MD Feb 2024 - Mar 2024

- Programmed a lexer, parser, and interpreter for MicroCaml, which converts an OCaml program into an Abstract Syntax Tree (AST) and evaluates the OCaml Program (statements and expressions)

SpotSearch - *Software Engineer*   Rockville, MD 2023-2024

- Utilized Spotify's API and ReactJS to create a web application that mimics Spotify's search features
- Listed 10+ artists with similar names relevant to the search subject, associated images are shown with each artist

Over Terrain Vehicle (OTV) Project for Materials Identification - *Project Leader*   College Park, MD 2021-2022

- Designed a fully autonomous vehicle to travel through obstacle-filled courses and analyze materials at each site
- Coded an Arduino program connecting the WiFi module to the OTV's Navigation System to aid with movement
- Installed ultrasonic, light, and load cell sensors for autonomous robot navigation programmed through Arduino

blair3sat - *Design Team Member, Communications Lead*   Rockville, MD 2019-2021

Entirely student-run small satellite development project

- Led group of 45 students in organizing CAD designs to draft a proposal for NASA's NanoSatellite program
- Created Fusion360 CAD drawings for Ionosonde Receiver used to measure electron densities & frequencies

SKILLS

- **Languages**: Python, Java, C, C++, OCaml, Rust, JavaScript, MATLAB, HTML, CSS, SQL, Verilog, MIPS Assembly, ReactJS, Excel VBA, R
- **Programs & Developer Tools:** Linux/Unix, Git, BitBucket, JUnit, GDB, Matplotlib, Pandas, Fusion360, TinkerCad, SolidWorks, Agile/Scrum, Jira, Oscilloscopes, Microsoft Office