Som Wakdikar

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# EXPERIENCE

# DevSecOps + Embedded Software Engineer @ Lockheed Martin June 2024 – Current

* Founded and integrated **CI/CD** pipeline infrastructure across Gitlab with **Python** for 80+ engineers across 10+ agile teams to automate code compilation, reviews, and unit testing
* Led **all** technical Agile team demos highlighting CI/CD infrastructureand new features to generate 400+ header files for cross-process communication
* Supporting build infrastructures and other software Agile teams by containerizing software and dependencies using **Docker/Podman** for a complete F-35 mission software build
* **Embedded** software development in **Object Oriented C++** for the next-gen F-16 using Agile methodologies
* Built tools using **Bash** and **Python** to generate 100+ files and integrating tools such as Clang LLVM, GDB, CMake, Make, and g++ to speed up repetitive code development and code reviews by 33%

# Software Engineer @ NASA Jan 2023 – Aug 2023

* Deployed an unconventional solution to provide the flight control team a real-time video feed from the Boeing Starliner sensor suite using **Python** and computer vision, earning an award for outstanding contributions
* Developed a **Python MediaWiki** extension in headless Linux interfacing with PHP and a SQL database so an astronaut can access the Artemis II ITAR compliant training
* Rectified discrepancies for computed telemetry data and flight displays through detailed analysis and debugging of Python3 code, the deployment architecture in Linux, and other proprietary GUI code
* Pioneered a **React + Node.js** web app for new hire trainings and a **Unity VR** experience used for ISS astronaut trainings

# Nano-electronic Software Researcher @ University of Texas August 2023 – May 2024

* Developed a FOSS simulation to model nano-electronic devices in **Julia (Backend)** and **React (Frontend)**
* Researched and implemented high performance matrix inversion routines in **Julia**, reducing Big-O complexity and enabling inversion of structured 1M x 1M+ dimensional matrices
* Refactored codebase with Object Oriented programming techniques, implemented CI pipelines using GitHub Actions

**Propulsion Team Leader @ University of Texas** **Aug 2021 – Jan 2023**

* Led the Design, Build, Fly team that placed top 10th to optimize the propulsion system using data analysis
* Singlehandedly engineered an urgent solution to the aircraft deployment system after design plans had failed

**Civil Engineering** [**Research**](file:///C:\Users\e463550\Downloads\honors.unt.edu\scholars-day\som-wakdikar)**er @ TAMS** **Dec 2020 – Aug 2021**

* Stress/strain analysis of shear walls using Abaqus FEA; modeled a 155-unit apartment using Autodesk Revit

# EDUCATION

**B.S. Electrical & Computer Engineering, The University of Texas at Austin, Austin TX Aug 2021 – May 2024**

* GPA: 4.0/4.0, graduated early in 2 years with High Honors
* Technical Core/Focus in Software Engineering and Design + Computer Architecture and Embedded Systems

**Honors Diploma, TAMS, Denton TX Aug 2019 – May 2021**

* GPA: 4.0/4.0, Early college residential program for high-school students
* Awarded for exceptional academic performance and completing 475 community service hours

# SKILLS

* Python, Linux/Unix, C/C++, Bash/Shell, CI/CD DevOps with GitHub/GitLab, Java, SQL/NoSQL, Containerization with Docker/Podman, Julia, Perl, JavaScript, React.js, OOD/OOP, Full-stack, Node.js, Agile Scrum/Kanban

# PROJECTS

* [Fine-tuning an LLM](https://medium.com/@jaspertan_49883/rationallama-fine-tuning-an-llm-for-logical-reasoning-and-why-its-hard-c590ff4081fc): Successfully achieved a **higher accuracy than GPT 3.5 Turbo** on logical reasoning datasets
* Hardware Checkout: Used React, MongoDB, Heroku, Flask, and JavaScript to create a full-stack web application
* [Kaggle Competition](https://www.kaggle.com/competitions/zooglebowl): **Ranked 2nd/104**in AI/ML Data Science course competition for binary classification
* Weather Application: Java, Android Studio, Google APIs, Weka and tested on an android smartphone
* Embedded Systems (2x): Communication between two devices using RF technology; engineered a video game
* Earthquake Damage Prediction: Python machine learning models to predict building damage after an earthquake