Tejesh Reddy Sigineni

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Education

- **Arizona State University - Ira A. Fulton Schools of Engineering** — Tempe, AZ
  Master of Science - Computer Science; GPA: 4.0/4.0 — *08/2021 - 05/2023*
  Relevant Courses: *Algorithms, Web Development, Distributed Systems, Blockchain Engineering, Software Security, Cloud Computing*
- **PES University** — Bangalore, India
  Bachelor of Technology - Information Science and Engineering; GPA: 3.6/4.0 — *06/2015 - 05/2019*
  Relevant Courses: *Data Structures and Algorithms, Computer Networks, Unix and Shell Programming, AI, Design Patterns*

Skills Summary

- **Languages**: Python, JavaScript, TypeScript, GoLang, C, Java
- **Web Dev Frameworks**: ReactJS, Spring Boot, NextJS, Flask, Django, NodeJS, JQuery, Handlebars, Express
- **DevOps and Cloud**: AWS, Kubernetes, Jenkins, Docker, GIT, DynamoDB, Terraform, CDK, OpenStack
- **Databases and Tools**: PostgreSQL, MongoDB, Redis, Spark, UiPath, Kafka, Object Store, Spark

Experience

- **Hewlett Packard Enterprise (HPE)** — Fort Collins, CO
  Cloud Software Engineer III — *02/2024 - Present*
  - **OnPrem Applications (Golang, Shell)**: Working on developing application and API services for on-prem cloud applications and API services using Golang and Kubernetes.
  - **VM Infrastructure (Docker, Kubernetes, Helm)**: Deploying applications onto the VM using containerized solutions to ensure scalability and reliability of services. Responsible for orchestrating container deployment through Kubernetes and managing Helm charts for efficient application lifecycle management.
- **CVS Health** — Dallas, TX
  Software Development Engineer - Fullstack — *03/2023 - 02/2024*
  - **Claim Processing Platform (Python, React)**: Collaborated in the development of a full-stack application designed for the collection of user information and the utilization of RESTful services to streamline business process automations.
  - **RPA Orchestrator (Java, UiPath)**: Collaborated with cross-functional teams to develop a UiPath framework that automatically processes patient claims through business pipelines, resulting in a 30% reduction in processing time.
- **Arizona State University - SEFCOM Lab** — Tempe, AZ
  Graduate Research Assistant - Backend & Cloud Engineer — *11/2021 - 01/2023*
  - **Binwalk(Python, Docker, AWS, Kubernetes)**: Created and integrated binary analysis workflows with backend services to reverse engineer and analyze targeted threats on firmware images.
  - **FirmAE**: Contributed to an automated open source framework that is responsible for crawling the web to extract 80k+ firmware images, emulations, and vulnerabilities from 100+ hardware vendors.
  - **Greenhouse**: Assisted in a research project under Dr. Ruoyu Wang which aims at finding 717 N-day and 26 zero-day vulnerabilities in firmware images when rehosted in a single-service Linux-based user-space emulation (QEMU).
- **Unbxd** — Bangalore, India
  Software Development Engineer - Fullstack — *07/2019 - 08/2021*
  - **Platform Integration(React, TypeScript, GraphQL)**: Spearheaded the successful integration of customer websites with the Unbxd platform, utilizing a robust tech stack to power seamless and low latency search results.
  - **JS SDK Plugin(Search, AutoSuggest, Rex)**: Contributed to Unbxd OSS e-commerce search, typeahead, and React recommendation libraries which improved the sales by over 20% when integrated with customer sites.
  - **Catalog Pipelines (Python)**: Developed and deployed AWS EMR data pipelines for efficient catalog indexing and data ingestion, enhancing e-commerce search for 200+ customers and boosting revenue by 40% for leading customers.
  - **Workflow Triggers (Go, Python, Kubernetes, Argo, Docker)**: Architected 50+ event-based workflow triggers enabling customers to schedule/invoke chron-enabled pipelines across channels integrated with RESTful Services.
  - **Apache Mesos - Chronos (Docker, Python, Helm)**: Implemented a catalog preprocessing system on Apache Mesos' cluster using master-slave architecture and load balancing mechanism, scheduling over 3k data pipelines for indexing jobs, guaranteeing optimal performance and resource optimization.
  - **PyCoversion Library**: Developed a Python REST library to facilitate stream and batch multi-format catalog upload, buffering SMTP handler, failure detection and recovery. The current version is published on PyPi as 0.5.0(pyconversion).

Projects

- **Video Classification Service(Python, AWS, OpenStack)**: Architected and developed an auto-scalable video classification service that adheres to CAP theorem principles and provides near real-time results. (May '23)
- **Reddito - React Web Application (NodeJS, ReactJS, MongoDB, NextJS)**: Developed Reddito, a comprehensive full stack application using MERN stack to allow users to create accounts, login, and also to enable multi-user real-time updates which is hosted on vervel. (Aug' 23)
- **Sync Sphere - Multiuser File Sharing Service(ReactJS, NextAuth, TypeScript)**: Designed and built a versatile full-stack cloud storage solution for seamless file synchronization, backup, and sharing across multiple users.(May' 23)
- **AWS Lex Financial Assistant Chatbot (Python, AWS - Lambda, Lex, DynamoDB)**: Built an advanced NLP-based linguistic chatbot that assists end-users and financial institutions to make calculated banking decisions, providing them with insights on several asset classes and market sentiment. (April '22)

Publications

- **32nd USENIX Security Symposium - Greenhouse**: Published in USENIX Security Symposium at Anaheim, CA '2023 - "Single-Service Rehosting of Linux-Based Firmware Binaries in User-Space Emulation".