# 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, NextJS, Flask, Django, NodeJS, JQuery, Handlebars, Express
- **DevOps and Cloud**: AWS, Kubernetes, Docker, GIT, DynamoDB, Terraform, CDK, OpenStack
- **Databases and Tools**: PostgreSQL, MongoDB, Redis, Spark, UiPath, Kafka, Object Store, Spark

## Experience

- **CVS Health** Dallas, TX
  *Software Development Engineer (Internship)* *03/2023 - Present*
  - **Claim Processing Platform (ReactJS, Node)**: 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 (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*
  - **FirmAE**: Contributed to an automated OSS 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).
  - **Binwalk(Python, Docker, AWS)**: Created and integrated binary analysis workflows with backend services to reverse engineer and analyze targeted threats on firmware images.
- **Unbxd** Bangalore, India
  *Software Development Engineer - Fullstack* *07/2019 - 08/2021*
  - **Platform Integration(React, Express, ES6, TypeScript)**: 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.
  - **Python Catalog Pipelines**: Developed and deployed several data pipelines to AWS EMR that facilitate catalog indexing and data ingestion to power e-commerce search for 200+ customers.
  - **Argo Workflow Triggers (Python, Kubernetes, Argo, Docker)**: Architected over 50 event-based workflow triggers for clients to schedule/invoke chron-enabled pipelines using RESTful Service/Dashboard.
  - **Apache Mesos - Chronos (Docker, Python, Helm)**: Implemented a catalog preprocessing system built on Mesos cluster, which hosted over 3k data pipeline, featuring a master-slave re-election architecture and server threshold checks.
  - **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

- **Reddito - React Web Application (ReactJS, NodeJS, Express, 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)
- **Video Recognition 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)
- **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".