

# 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, Statistical ML, 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, C, JAVA, GoLang, JavaScript, ReactJS
- **Web Dev Frameworks:** Flask, Django, Spring, NodeJS, React, JQuery, Handlebars
- **DevOps and Cloud:** AWS, Kubernetes, Docker, GIT, DynamoDB, Terraform, CDK, HELM, OpenStack
- **Databases and Tools:** PostgreSQL, MongoDB, Redis, Spark, UiPath, Kafka, Object Store, Spark

## EXPERIENCE

- **CVS Health** Dallas, TX  
*Software Development Engineer (Internship)* 01/2023 - Present
  - **ACAS Claims - RPA:** 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.
  - **UiPath Orchestrator REST API:** Implemented a RESTful service architecture to manage, deploy, and trigger multiple RPA robots, ensuring backward compatibility while simultaneously enhancing process automation efficiency.
- **Arizona State University - SEFCOM Lab** Tempe, AZ  
*Graduate Research Assistant (Cloud & Firmware Security)* 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:** Integrated binary analysis workflows to reverse engineer and analyze targeted threats on firmware images.
- **Unbx** Bangalore, India  
*Software Development Engineer - Platform/Cloud (Full-time)* 07/2019 - 08/2021
  - **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.
  - **JS SDK Plugin(Search, AutoSuggest, Rex):** Contributed to Unbx OSS e-commerce search, typeahead, and recommendation plugin libraries which improved the sales by over 20% when integrated with customer sites.
  - **Microservice Orchestration (Terraform, GoLang):** Deployed multiple services leveraging Terraform and Kubernetes in conjunction with Go and Docker to streamline scaling of customer catalog ingestion applications.
  - **Argo Workflow Triggers (Python, Kubernetes, Argo, Docker):** Architected over 50 event-based workflow triggers for clients to schedule/invoke cron-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.
  - **PyConversion 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 Recognition Service (Py, AWS, OpenStack):** Architected and developed a highly scalable video classification service that adheres to CAP theorem principles. Successfully classified over 1k videos in less than 10 minutes. (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)
- **Social Media Blogging Application (Spring, Java, JavaScript, Docker):** Architected and developed a CRUD-based social media web blogging application that supports multi-user real-time updates. (April '20)
- **Deep Learning Clickbait Detector (Keras, NLTK, Python, Flask, TensorFlow, JavaScript):** Designed and programmed a Chrome extension to detect clickbait in articles using a convolution neural network (CNN) as the backend. The model has an accuracy of 88% on the validation/test set. (Jan' 19)

## PUBLICATIONS

- **32nd USENIX Security Symposium - Greenhouse:** "Single-Service Rehosting of Linux-Based Firmware Binaries in User-Space Emulation". Published in USENIX Security Symposium at Anaheim, CA '23.