VAMSI UDAYAKUMAR JONNAKUTI

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EDUCATION

New York University, Tandon School of Engineering   **NY, USA**
Master of Science in Computer Engineering   *Expected May 2026*

PES University   **Bangalore, India**
Bachelor of Technology in Computer Science and Engineering   *Aug 2015 – May 2019*

TECHNICAL SKILLS

- **Languages:** Java, Python, C, C++, JavaScript, Typescript, SQL, HTML/CSS, Vela, Groovy
- **Frameworks:** REST APIs, Spring-boot, Maven, Gradle, Junit, Mockito, Selenium, OpenCV, AngularJS, ReactJS
- **Technologies:** Docker, Git, Linux, MongoDB, PostgreSQL, MySQL, Kafka, Postman, Insomnia, Jenkins, Nomad

EXPERIENCE

New York University   **NY, USA**
Graduate Research Assistant at mLab   *Jan 2024 – present*
- Assisting **Dr Danny Huang** with the Network Security course that has over **200+ students** and coordinating a research study on RouterSense, a passive in-home health monitoring system leveraging Wi-Fi based activity tracking.
- Provided technical support by setting up **38 Raspberry Pis** with **Tailscale**, that plugs into the router to collect network traffic and guided **80** study participants with **ADB** and **WireGaurd** setup to track device activity.
- Developed and maintained the data pipeline and auto-labeling system for efficient data collection and collaborated with researchers to analyze encrypted network traffic and device usage activity against the digital biomarkers for early detections of ADRD.

Target Corporation   **Bangalore, India**
Senior Engineer   *Aug 2022 – Aug 2024*
- Led the transition of the in-house low-code automation tools to a single no-code platform by designing and developing the back-end using **Postgres** for the DB, **Java**, and **Spring** for the microservices; gaining over **500 users** and saving **65,000 man-hours/year**.
- Spearheaded the creative automation capabilities using **OCR** & **ML** to extract design components along with relative positions to render package designs on Illustrator using **Java** & **ActiveX**, resulting in **80% workload reduction**.
- Built a color extraction pipeline that processed artwork files using ML and automated updates to **SPARK via Kafka-based services**, eliminating **100+ hours/year** of manual work at **70% faster processing rate**.
- Led the migration from **Nomad to TAP** by revamping CI/CD pipelines, developing a web driver framework, and credential management API, improving system stability and reducing downtime by **40%**.
- Trained and mentored TMs in **Java, Spring Boot, Vela, Docker**, and other related technologies, guiding them through automation projects to strengthen their understanding of the tech stack and agile SDLC.

Engineer   *Dec 2019 - Aug 2022*
- Developed five robust, scalable bots using **Selenium and Java**, automating key business processes that saved over **$500,000** annually while reducing manual effort by **2,000 hours** across two distinct business units.
- Revamped a manual intervention capability on the monitoring dashboard using **ReactJS and Redux** on which helps users update data and change the processing state in real-time to reduce failure scenarios by **75%**.
- Built a record and play chrome extension that captures user interactions on websites during manual process execution and automatically generates automation scripts, reducing web-based automation development time by **95%**.

PROJECTS

Intelligent Intrusion Detection System | *NumPy, PyTorch, Keras, Python, Tensorflow*   **Github link**
- Engineered a 2 stage IDS using a **CNN-LSTM** trained anomaly IDS and **DT** based signature IDS, combined to work as a two-staged filtration system to detect malicious network packets with a **MCC score of 0.84**.

Real-time Sentiment Analysis for CT'17 | *Pentaho, Python, Tweepy*   **Github link**
- Implemented a real-time sentiment analysis system that scrapes the twitter data during the match and then uses **NLP and text classification** to perform analysis on **Pentaho**.

License Plate Recognition System | *OpenCV, PIL, Python, Tesseract*   **Github link**
- Revamped the LPR system by implementing a hybrid architecture that localized on non-compliant license plates, using **edge detection**, combined with **OCR** to achieve **92% accuracy** in extraction at a 2x faster rate.