

Pavan Kalyan Reddy Cherupally

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Education

Masters in Computer Science

Arizona State University

May 2025

Tempe, AZ

B.Tech(Honors) in Electronics and Communication Engineering

International Institute of Information Technology, Hyderabad

May 2021

Hyderabad, India

Technical Skills

Programming Languages: C, C++, Python, Java, SQL, Ruby, R, Bash, GoLang, NoSQL, ReactJS, HTML, CSS

Databases: MySQL, SQLite, MongoDB, Elasticsearch, Amazon S3, InfluxDB, Redis, DynamoDB, Oracle, Cassandra, PostgreSQL

Technologies/Frameworks: Django, Flask, Kubernetes, Selenium, Apache, Keras, Rails, TensorFlow, OpenCV, AWS, GCP,

GitHub, Jenkins, Grafana, Bash, Bootstrap, Cassandra, Kafka, Docker, HDFS, RESTful API, Hadoop, SQS, NodeJS, Linux, CI/CD

Soft Skills: Problem Solving, Communication, Teamwork, Collaboration, Adaptability, Creativity, Accountability, Leadership

Experience

Software Development Engineer - Desktop Platform

July 2022 – Aug 2023

BrowserStack

Mumbai, India

- Integrated new OS (Mac, Windows) and browsers on terminals, enhancing cross-platform compatibility. Upgraded Ruby, Python, and JDK versions for performance improvements, boosting user experiences for 90% of customers.
- Enhanced the BrowserStack alerting framework deployment using Vagrant and Ansible, reducing dev setup time by 95%.
- Led the shift of BrowserStack alerting and reporting platform from monolithic to Docker-based Kubernetes microservices, addressing challenges like adapting single-instance features for multi-instance compatibility and intelligent resource management.
- Implemented feature flagging using Redis for selective feature rollout in BrowserStack customer releases.
- Implemented CI/CD tools for BrowserStack terminal deployment, achieving seamless patch releases without disruptions.
- TechStack:** Docker, Kubernetes, ShellScripting, Vagrant, Ansible, VMware, Jenkins, Prometheus, Grafana, Redis

Software Development Engineer - Data Platform

May 2021 – Jun 2022

BrowserStack

Mumbai, India

- Led a team of four to develop a cost governance platform akin to AWS, utilizing ETL pipelines from Amazon RDS to BigQuery and integrating it with Google Looker Studio, resulting in a 10% reduction in annual infrastructure costs.
- Implemented an enterprise-wide centralized logging framework following GDPR laws, seamlessly pulling data from diverse sources (EC2, Kubernetes, Mac and Windows customer terminals, etc.), resulting in a notable 15% decrease in MTTR for technical issues.
- Leveraged Filebeat on source machines and Logstash on the target Elasticsearch cluster for streamlined log forwarding and processing. The logs and its insights were visualized through a user-friendly Kibana dashboard.
- Built data pipelines with Apache Airflow to transfer seamlessly from local MySQL RDS to AWS S3 and then to Google BigQuery.
- Achieved 95% unit test coverage, cutting post-release bugs by 50% through Agile methodologies and automated tests.
- TechStack:** AWS(Lambda, EC2, S3, RDS), GCP(BigQuery, Pub/Sub, GCE, Looker), Python, ElasticSearch, SQL

Machine learning Research Assistant

April 2019 – March 2021

VLSI Research Center, IIIT Hyderabad

Hyderabad, India

- Developed advanced Machine Learning and Deep Learning models to predict total delays in digital circuits across various technologies, achieving a robust prediction accuracy exceeding 95% for complex cells.
- Authored a comprehensive survey paper titled "AI/ML Algorithms and Applications in VLSI Design and Technology (Elsevier 2023)," exploring automated approaches in AI/ML for VLSI design and manufacturing. The paper delves into past advancements and presents future prospects across various abstraction levels.
- TechStack:** Python, C++, DynamoDB(NoSQL), SQL, Tensorflow, Pytorch

Software Engineer

August 2019 – April 2020

IIIT Hyderabad

Hyderabad, India

- Built an Information Management System (IMS) web application for the Embedded Systems workshop course, assisting the professors in evaluating students' academic performance and enabling students to access study materials, assignments, and grades.
- Developed a Django web application featuring RESTful APIs. Documented and tested REST APIs using JSON Schema in Postman and SwaggerIO, covering 50+ test cases.
- TechStack:** Python, Django, Postman, SwaggerIO, HTML, CSS, JavaScript

Academic Projects

Mental Health Chat-Bot - MindfulLife | Android Development, Java, Python, AWS

January 2021 - May 2021

- Led MindfulLife's development, an innovative Android app that integrates a conversational chatbot with context-aware capabilities for personalized mental health support. Utilizing NLP and sentiment analysis, the app provides custom advice based on user profiles, mood, and context data from sensors.

Distributed Banking System | Distributed Systems, Python, gRPC

Aug 2023 - Dec 2023

- Developed a distributed banking system with gRPC communication for concurrent transactions for multiple customers across branches, featuring client-centric consistency and Lamport logical clock integration.