

# PUNID RAMESH NATESAN

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## EDUCATION

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### University of Southern California

Degree: Master of Science in Computer Science

Los Angeles, CA  
Aug 2023-Present

### Vellore Institute of Technology

Degree: Bachelor of Technology in Electronics and Communication Engineering; GPA: **9.16**

Vellore, India  
Jul 2018-Jul 2022

## EXPERIENCE

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### HEWLETT-PACKARD INC.

Cloud Engineer 1

Bangalore, India  
Jul 2022-Jul 2023

- Led development initiative for a microservice within HP Smart Portal to leverage telemetry events from **407** distinct non-NPI printer models to provision printer ink supplies shadow data  
Showcased a processing capacity of **~800,000** printer ink supplies telemetry events per hour via E2E load testing
- Improved data consistency through implementation of conditional checks within a microservice handling **~250 requests/s** to address database race conditions and mitigate printer shadow data loss
- Coordinated with **3** teams to perform horizontal pod autoscaling adoption analysis for **10** microservices, by means of a series load testing aimed at optimizing infrastructure costs
- **Tools:** Spring Boot, AWS Kinesis, SQS, DynamoDB, Lambda, Terragrunt, Apigee, SonarQube, Docker, Splunk

### HEWLETT-PACKARD INC.

Research and Development Intern

Bangalore, India  
Feb 2022-Jun 2022

- Implemented distributed tracing of registration microservice using OpenTelemetry to establish enhanced observability
- Developed a solution to streamline management of HP cloud platform API usage data for **~30** platform solutions by upgrading to a web-based portal for data consistency
- **Tools:** OpenTelemetry, AWS EC2, ELB, RDS, Zipkin, Spring Boot, React, MySQL, Docker, Terragrunt, Splunk

### RELIANCE JIO

Software Engineer Intern

Bangalore, India  
Aug 2021-Jan 2022

- Architected and developed an OPC-UA backend solution for Energy Metering of **200,000** concurrent devices
- Demonstrated scalability via Kubernetes, by enabling autoscaling for up to **15** OPC-UA client instances
- **Tools:** Kubernetes, Docker, Kafka, MongoDB, JavaScript, OPC-UA, CoAP, Shell Scripting

## PROJECTS

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### MORAX

- A Python package to fetch Coinbase wallet data authenticated over OAuth to view user portfolio on a terminal ([Link](#))
- **Tools:** Python, Click, Flask, OAuth2.0, Coinbase APIs, Heroku

### ARTEMIS

- A responsive website solution for the public to track and gain insights into COVID-19 transmission ([Link](#))
- **Tools:** Bootstrap, Django, PostgreSQL, Heroku

## SKILL SET

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- **Languages:** Java, Python
- **Technologies:** Spring Boot, Kafka, Docker, Kubernetes, AWS Kinesis, DynamoDB, Lambda, SQS, React, MongoDB
- **Certification:** AWS Certified Solutions Architect – Associate ([Link](#))

## PUBLICATIONS

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- Proposed Experimental Design of a Portable COVID-19 Screening Device Using Cough Audio Samples ([Link](#))
- Visualization and performance analysis on 5G network slicing for drones ([Link](#))