

KARAN GUPTA

Software Engineer | Production Reliability | Manufacturing Systems | Python & SQL Automation
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EDUCATION

Santa Clara University, Evening MBA
San Francisco State University, Computer Science

March 2024 - on-going
August 2014 - May 2018

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, HTML, CSS, SAP ABAP, scripting automation, data processing, algorithm development
Backend / APIs: REST APIs, Postman, API testing, data validation, JSON, data migration, backend troubleshooting, internal services
Databases / Data: MySQL, Oracle 11g/12c, SQL queries, schemas, ERP data workflows, data quality, reporting, analytics
Monitoring / DevOps: Splunk, Grafana, SolarWinds, Kubernetes, Docker, Git, cloud operations, incident response, root-cause analysis
Systems: Manufacturing applications, ERP systems, Oracle WEC/WFR/WCC/EM, automation playbooks, production reliability

WORK EXPERIENCE

Tesla, Inc.

Nov 2020 - Present

Sr. Application Support Engineer (Full Time)

- Built Python/SQL automation scripts and monitoring workflows for factory software systems, improving issue detection and reducing downtime by approximately 30% through data-driven diagnostics.
- Improved in-house manufacturing platforms by automating support workflows, API checks, and data validation processes, helping maintain availability for thousands of production users.
- Engineered observability workflows using Splunk, Grafana, and SolarWinds to accelerate root-cause analysis, reduce troubleshooting time, and improve incident response quality.
- Automated data validation, migration, and REST API-based workflows using SQL, Postman, JSON, and internal services, improving data accuracy and operational speed across manufacturing systems.
- Developed a Claude Code-based custom skill/plugin to streamline application integration, process documentation, and troubleshooting, reducing manual debugging effort by approximately 30%.
- Created technical playbooks, escalation protocols, and environment setup frameworks for Kubernetes/cloud-supported applications to standardize workflows and minimize system disruptions.

Inspyrus, Inc

Sept 2018 - Nov 2020

Support Engineer (Full Time)

- Resolved technical and product issues for enterprise clients, ensuring high client satisfaction through proactive troubleshooting and timely resolution.
- Supported cloud operations and collaborated with engineering teams to optimize product capabilities while aligning technical work with business objectives.
- Implemented and optimized ERP systems, Oracle servers, and tools such as Oracle WEC, WFR, WCC, and EM while managing databases for scalability, reliability, and performance.

Ernst & Young (EY)

Jun 2017 - Aug 2017

Software Engineering (Intern)

- Developed data analysis algorithms, reformatted datasets, and created structured data sheets to improve data accuracy, usability, and reporting quality.
- Gained hands-on experience with SAP ABAP while collaborating with Intex consultants on multiple projects to deliver tailored technical solutions and support business processes.
- Managed large datasets, populated databases, and extracted insights using MySQL to fulfill reporting requirements and support data-driven decision-making.

Henry Harvin India Education LLP

Jun 2016 - Aug 2016

Website Developer (Intern)

- Developed and deployed frontend web solutions using HTML, JavaScript, and CSS, leveraging GoDaddy hosting to deliver seamless user experiences.
- Designed and implemented interactive features including chat interfaces, responsive page layouts, and performance optimizations to enhance user engagement.
- Managed backend database structures and email tracking systems using MySQL, ensuring data accuracy, efficient query execution, and reliable reporting.

KPMG

Jul 2015 - Aug 2015

Software Engineering Intern (Data Analyst)

- Integrated and structured large heterogeneous datasets, designing specialized database schemas to improve data organization and query efficiency.
- Conducted statistical analysis on complex datasets and developed reusable Python scripts to automate processing and derive actionable insights from primary and secondary data sources.

RESEARCH PAPERS

- Application of Predictive Maintenance in Manufacturing with the utilization of AI and IoT Tools
- Reducing Costs and Maximizing Efficiency in Solid-State Lithium Battery Production: A Roll-to-Roll Processing Approach
- Circular Economy in Lithium Battery Manufacturing: Recycling Waste for a Sustainable Future
- Development of safe lithium-ion batteries using PEO and PVDF in electrolyte
- Predictive Maintenance Using AI and IoT in Manufacturing
- Cost Efficiency and Recall Management in the Automotive Industry: A Comparative Study of Tesla, Ford, and Toyota

PROFESSIONAL DEVELOPMENT

- Chair of Advanced Manufacturing Research, Dunster University
- Author of "Cracking the Egg to Manufacturing Methods"
- Financial Technology, New York University
- Six Sigma Green Belt, KPMG
- Agile Project Management, Henry Harvin Education