Shivani Singh

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SUMMARY

Software Engineer with 3+ years of experience building production applications and scalable infrastructure. Full-stack developer specializing in Python, React, and cloud-native architectures with expertise spanning AI/ML integration, data engineering, and real-time systems. Proven track record in end-to-end product development, from frontend interfaces to distributed backends, with hands-on experience in production system deployment and optimization. Currently pursuing doctoral research in business intelligence and data analytics, combining academic rigor with production engineering excellence.

SKILLS

AI & ML: LLM Integration & Deployment, Agent Systems, Model Serving & Orchestration, Prompt Engineering, Claude API, OpenAI, LangChain, RAG, Statistical Analysis, Predictive Analytics, TensorFlow, PyTorch, scikit-learn
Development: Python, Ruby, React, TypeScript, JavaScript, Flask, NodeJS, RESTful APIs, WebRTC, User Experience, Figma
Data & Infrastructure: R, SQL, ETL/ELT Pipelines, PostgreSQL, Airflow, Databricks, Prometheus, Grafana, Docker, Kubernetes, CI/CD, AWS, Azure, Terraform, Tableau, Power BI, BigQuery
Research & Analytics: Statistical Modelling, Business Intelligence, Geospatial Analysis, Academic Research

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WORK EXPERIENCE

Mixhalo | San Francisco, CA
Full Stack Engineer   Apr 2022 - Nov 2022
- Architected and prototyped real-time audio translation system (Mixhalo Translate), building foundational demo to demonstrate technical feasibility and market vision to stakeholders and investors
- Conducted comprehensive technical research and proof-of-concept development for WebRTC-based audio processing pipeline, establishing scalable architecture patterns and integration strategies for ML translation services in live events
- Built production-ready infrastructure components using Kubernetes and Docker, improving cost-efficiency by 67% and creating deployment frameworks that enabled seamless integration of real-time processing tools and analytics dashboards
- Designed data pipeline architecture combining audio streaming, metadata processing, and user interaction patterns, enabling personalised content delivery and establishing monitoring systems (Loki, Prometheus) for operational insights

Extreme Networks | San Jose, CA
Software Applications Engineer   Mar 2021 - Apr 2022
- Architected data consolidation systems integrating multiple sources with SQL/NoSQL databases, building scalable analytics infrastructure supporting real-time decision-making across teams
- Developed production-grade visualisation dashboards in Power BI and Tableau, creating a self-service analytics platform used by multiple stakeholders for KPI tracking and business intelligence
- Worked on ExtremeIQ network management system, gaining deep understanding of TCP/IP, DNS, VPNs, & firewalls
- Implemented comprehensive testing framework, reducing production incidents by 45%, establishing quality standards and deployment practices for rapid iteration cycles
- Mentored engineering team members on network management and software architecture, demonstrating technical leadership and knowledge transfer capabilities that are essential for founding team environments

Extreme Networks | San Jose, CA
Frontend Engineering Intern   Mar 2020 - Mar 2021
- Collaborated with the UX designer to revamp the product's user interface, enhancing user experience and visual appeal
- Developed frontend libraries using Dojo and Honeycomb frameworks, improving code reusability and efficiency

Questrom School of Business, Boston University | Boston, MA
Teaching Assistant   Jul 2019 – Oct 2019
- Taught data analytics and business intelligence using R, Python, and SQL, leveraging BigQuery for analysis & visualisation and foundational Data Science concepts, including algorithms, statistical analysis, and predictive modelling
- Mentored students in research methodology and proposal development, resulting in improved proposal quality and increased approval rates

Disability & Access Services, Boston University | Boston, MA
Assistive Technology Consultant   Sep 2018 – Jan 2020
- Analysed concussion data using R, Scala, and Python, reducing incorrect assistive tool distributions by 97% through predictive modelling and data-driven decision making
- Automated student profile display system with HIPAA-compliant PII redaction/encoding practices, streamlining accommodations and reducing data redundancy by 80%
- Launched "Library Scan Project," optimising accommodation request workflows and reducing service request processing times by 50%

RESEARCH

Westcliff University | Doctoral Research   Oct 2022 - Aug 2026 (Expected)

Spearheading a quantitative research study tackling the issue of smaller banks facing reputational contagion when a larger bank collapses. The robust conceptual framework utilises advanced machine learning models to analyse multimodal data with high precision, thereby establishing a strong foundation for future predictive analysis.

NOTABLE PROJECTS

Windborne Constellation Tracker
Live Demo: https://windborne-dashboard.onrender.com

- Built a real-time, full-stack analytics platform with Claude API integration for intelligent balloon trajectory analysis and operational insights
- Developed context-aware prompt engineering system that processes multimodal data (telemetry, weather, historical patterns) for actionable insights
- Created robust data processing pipeline with intelligent caching and error handling for 24-hour continuous operation

Sustainable Fashion Analytics Platform
Live Demo: https://sustainability-fashion-tracker.onrender.com

- Built a full-stack production AI recommendation system using OpenAI GPT-4 and LangChain for personalised sustainability insights based on user behaviour patterns and interaction history
- Implemented intelligent prompt engineering strategies for context-aware recommendations, achieving strong user engagement through context-aware AI-generated recommendations
- Developed PostgreSQL-backed user interaction tracking system for continuous learning and model improvement with real-time context composition
- Created browser-native analytics platform with interactive visualisations and location-based intelligent filtering using geospatial algorithms

EDUCATION

Westcliff University, California, USA | Remote, Weekends Only   Oct 2022 - Present

- Doctor of Business Administration (concentration: Business Intelligence & Data Analytics)
- **Research Focus:** Predictive Analytics & Financial Contagion Modelling

Boston University, Massachusetts, USA   Sep 2018 – Jan 2020

- M.S., Computer Information Systems (concentration: Database Management & Business Intelligence)
- **GPA:** 3.60 / 4.00

Indira Gandhi Delhi Technical University, New Delhi, India   Aug 2014 – Jun 2018

- Bachelor of Technology, Electronics & Communication Engineering
- **%:** 68.69 / 100