

Shubham Akhilesh Singh

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SKILLS AND CERTIFICATIONS

- **Programming Languages:** Python, JavaScript, TypeScript, Java, C.
- **Web Frameworks/Technologies:** Django, FLASK, React, Node.js, Angular, REST API, HTML5, CSS.
- **Cloud Platforms:** AWS (S3, EC2, RDS), GCP.
- **Databases:** MySQL, PostgreSQL, MongoDB.
- **Monitoring:** New Relic, Elastic Stack (ELK), Slack API (for alert notifications).
- **DevOps & Testing:** Docker, Kubernetes, CI/CD pipeline, PyTest, Jenkins, Selenium, Browser Stack, Lambda Test.
- **Message Queuing:** RabbitMQ, Kafka.
- **Certifications:** GCP (Associate Cloud Engineer), Python for Data Science and AI (Coursera), Clean Code (Udemy).

EDUCATION

University of Southern California, Viterbi School of Engineering

Master's in Computer Science. GPA 3.85/4.0.

Los Angeles, CA

Jan 2021- Dec 2022

Thadomal Shahani Engineering College, Mumbai University

Bachelor of Engineering in Information Technology CGPA of 9.33/10.

Mumbai, India

Aug 2015-June 2019

EXPERIENCE

MultiMedia LLC

Los Angeles, California

Software Engineer II [Django, Typescript, React, PostgreSQL, JavaScript, Docker]

April 2023-Present

- Designed and deployed an intelligent sitemap system, which improved website navigation, leading to a 15% increase in organic traffic and enhanced SEO rankings.
- Engineered backend payment system optimizations, improving transaction processing speed and reliability by 30%, supporting high-traffic scenarios with minimal downtime.
- Integrated shortcode functionality into the chat platform, reducing message input time by 25%, significantly improving user engagement and system responsiveness.

Zugz Inc.

Los Angeles, California

Software Engineer [Flask, MySQL, Elasticsearch, AWS S3, MongoDB, JavaScript]

June 2022-Dec 2022

- Optimized a scalable web crawling and indexing system, handling large datasets with MongoDB improving data retrieval speed by 20%.
- Designed autocompletes and Search functionality by indexing 5.3M records in OpenSearch leveraging Elasticsearch queries to improve search accuracy and user experience.
- Implemented AWS S3 for efficient data storage and retrieval, optimizing system performance and reducing latency in high-traffic environments.

USC's Information Science Institute (ISI)

Los Angeles, California

Python Research Assistant [Python, Beautiful Soup, Linux, NLP, MongoDB, Knowledge Graph]

Jan 2022-May 2022

- Applied Facebook's "Database Reasoning Over Text" research to enhance Wikipedia's info box content extraction, advancing automated data retrieval techniques.
- Scraped and processed over 1 million Wikipedia pages to build a high-quality MongoDB training database, enhancing the accuracy of NLP tasks.
- Utilized Knowledge Graph Toolkit (KGTK) to generate knowledge graphs, enabling Neural QA over Wikipedia text, significantly improving question-answering accuracy.

Accenture India

Mumbai, Maharashtra

Associate Software Engineer [MySQL, Flask, Java, JavaScript, JIRA, GitHub, Selenium]

Sep 2019-Dec 2020

- Developed scalable and high-performance software solutions based on business requirements, optimizing system efficiency and reducing latency by 10%.
- Implemented RESTful APIs, third-party integrations, and MySQL database systems, delivering robust web applications tailored to client specifications.
- Collaborated with cross-functional teams to streamline the integration process, ensuring seamless deployment and consistent performance across multiple platforms.

ACADEMIC PROJECTS

Stock Market Portfolio Application [Angular, Node.js, REST API, HTML, CSS, TypeScript]

Mar 2022

- Created a full-stack stock market portfolio application, integrating the Finnhub API to enable users to search, buy, sell, and favorite stocks, providing real-time market data and personalized portfolio management.
- Architected the front-end using Angular, optimizing UI/UX for seamless user interaction and achieving a 30% improvement in loading speed and overall performance.
- Leveraged Node.js for backend services, ensuring high-performance, real-time data processing, and scalable infrastructure to handle large volumes of stock transactions efficiently.

Mood Analysis of Song based on Lyrics [NLP, Python, Beautiful Soup, Spacy, Pandas]

Oct 2021

- Investigated and implemented multiple NLP architectures, including LSTM, Bi-LSTM, and CNN, achieving an F1 score of 69%, demonstrating advanced performance in mood prediction.
- Developed an automated web crawler to extract lyrics from the Genius API for 43,000 songs, significantly enhancing the dataset and improving the robustness of the analysis.
- Designed a predictive system that analyzes song lyrics to classify mood based on Thayer's four-quadrant model, providing insights into emotional trends in music and enhancing user experience.

Chrome Extension for Automatically Generating Image Annotations [Python, JavaScript, Flask, NLP]

Jan 2019

- Enhanced a ResNet152 pre-trained model by replacing the final layer with an LSTM, significantly improving text generation capabilities through training on the MS COCO dataset.
- Developed a Chrome extension that aggregates all images from web pages and dynamically renders generated captions via Flask API calls, improving user engagement and accessibility.
- Implemented text-to-speech functionality for image annotations, enabling visually impaired users to navigate and understand web content effectively, thereby enhancing web accessibility.

ACTIVITIES

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- Secured 2nd Place in the annual Intercollege Project Expo for the "Generating Image Annotations" project, demonstrating innovation and technical excellence in AI-driven applications.
 - Led a cross-functional team of three to conceptualize and design a mobile application at the Rajasthan Hackathon, a national-level competition, fostering collaboration and agile development practices.
 - Engaged in discussions with Django core developers and enhanced proficiency in advanced Django practices at DjangoCon.