

DARSH PATEL

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EXPERIENCE

Software Engineer: SUDOKN, Tempe

May 2024 - Present

- Working on a project funded by National Science Foundation (NSF) with NASA being one of the partnering agency.
- Designed and implemented an ontology to organize structured data; created a **knowledge graph** to represent relationships between data.
- Developed a user interface using **Next.js** to display queried data, creating a seamless connection between the backend knowledge graph and the frontend display.
- Developed a **TypeScript script to create JSON mappings** between data points or nodes, facilitating structured data relationships.
- Deployed the backend knowledge graph on a **Microsoft Azure virtual machine**, establishing a robust environment for querying and managing data.
- Utilized GraphDB to create endpoint for **querying SPARQL**, leveraging Docker to ensure a secure, isolated, and efficient runtime environment.
- Hosted the frontend on the same Azure virtual machine, ensuring seamless integration with backend services and simplifying infrastructure.
- Created and configured a **CI/CD pipeline** on GitHub, automating deployment and testing processes to accelerate development cycles and improve code quality.

Software Engineer: RoundTech Square, San Francisco (Remote)

Jan 2023 - Jun 2023

- Developed **full-stack web applications** using HTML, CSS, JavaScript, React.js, Node.js, Express.js, MongoDB, and PHP for an American startup.
- Designed and implemented a **microservices architecture**, improving application **scalability and maintainability**.
- Reduced page load times by 40%** through front-end optimizations, implementing lazy loading techniques and in app caching.
- Implemented **multithreading in API** calls, reducing response wait times **by 30%**.
- Developed robust **RESTful APIs** and integrated third-party services, enhancing platform functionality.
- Conducted unit testing, API testing with Postman, and acceptance testing; integrated static code analysis into CI/CD pipelines.
- Achieved 100% code coverage** by writing comprehensive unit and integration tests.
- Automated testing and deployment processes using **Jenkins and Docker**, leading to a 50% reduction in deployment times.
- Worked in an Agile environment, actively participating in SCRUM ceremonies and sprint planning.

EDUCATION

MS, Software Engineering

Arizona State University, Tempe, AZ

3.94/4.00 GPA

Relevant coursework: Advanced Data Structures and Algorithms, Data Visualization, Software Agility

Bachelors, Computers Science and Engineering

Indian Institute of Information Technology, India

3.57/4.00 GPA

Relevant coursework: Business Analytics, Data Analytics and Visualization, Artificial Intelligence.

TECHNICAL SKILLS

Development: React.js, Next.js, Node.js, Angular.js, back-end, front-end, full-stack, Git, Github, Docker, Mocha, Spring, Junit, Buildtools, Gradle, Maven, Lean and Agile Methodologies, HTML, Cascading Style Sheets (CSS), Postman, Linux, Amazon Web Services (AWS), firebase, DevOps, MLOps, MySQL

Languages: C (Programming Language), C++, Java, Python (Programming Language), JavaScript, TypeScript, SQL, XML.

Soft Skills: Communication skills, Leadership skills, Time Management, Problem-solving abilities, Product Management, Collaboration, Creativity, Decision-making skills, Quality focus, Task prioritization.

Certifications: Nvidia Deep Learning Certificate

ACADEMIC PROJECTS

Agile Metrics Visualization Tool

- Developing an analytics tool to measure agile metrics for projects adhering to Agile and Lean methodologies.
- Managed by a five-member team over four months, strictly following Agile and Lean principles.
- Developed a Python backend and JavaScript-based frontend.
- Implemented CI/CD pipelines with integrated static code analysis, unit tests, smoke tests, and integration tests.
- Converted monolithic architecture to microservices, containerized using Docker, and deployed on a live server.
- Conducted SCRUM ceremonies, maintained a Kanban board, and ensured continuous integration and delivery.

Data Science Project: Analyzing Agile Metrics from SCRUM boards

- Collected Agile metrics data from Taiga's Open API in JSON format; transformed and structured the data into CSV files using Python.
- Applied data cleaning with Pandas and NumPy to manage missing values, remove duplicates, and normalize data for analysis.
- Analyzed Agile process data, creating Matplotlib and Seaborn visualizations such as Lead Time vs. Cycle Time, Lead Time vs. Impediments, and task and user story completion histograms.
- Interpreted the visualizations to identify bottlenecks and areas for improvement in project management processes, providing actionable recommendations to enhance efficiency.