

Shashank Mani Tripathi

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Education

- **Master of Science in Computer Science** - University of Illinois at Springfield Aug 2022 - May 2024
- **Bachelor of Science in Computer Science** - Dr. A.P.J. Abdul Kalam Technical University Jun 2011 - May 2015

Skills and Technologies

- **Backend:** Ruby on Rails, Python, Django, SQL Server, MySQL, PostgreSQL, Redis, Sidekiq, MongoDB, DynamoDB
- **Cloud:** AWS RDS, AWS EC2, AWS Lambda, SNS, SQS, Aurora, Elasticsearch, Terraform, AWS S3, Azure VM,
- **Microservices:** REST APIs, GraphQL, Docker, Kubernetes
- **ML/AI:** Python, R, LLM, NLP, Transformers, TensorFlow, PyTorch, Pandas, NumPy, SciPy
- **Frontend:** HTML, CSS, JavaScript, jQuery, SEO, TypeScript, Vue.js, Bootstrap
- **CI/CD:** Jenkins, GitHub, Git, Bitbucket
- **OS:** MacOS, Linux (ubuntu)
- **Other Tools & Methodologies:** Rspec, Capybara, Cucumber, PyTest, New Relic, Postman, Datadog, JIRA, Agile, Scrum

Work Experience

Software Engineer - Graduate Assistant, University of Illinois at Springfield Jan 2023 - May 2024

- Developed and deployed **Dockerized app (Vue.js, MySQL, Docker)** for global event scheduling, boosting scheduling meetings by 25% and optimizing advisor availability through improved accessibility and time zone management.
- Automated deployment and infrastructure setup with **Shell Scripting**, reducing avoid configuration errors and manual workload 40%.
- Upgraded and migrated applications to the latest framework versions and implemented a new authentication system seamlessly, ensuring uninterrupted service.

Data Engineer Intern, Illinois Department of Innovation and Technology May 2023 – Jul 2023

- Spearheaded end-to-end development and maintenance of scalable **ETL** pipelines using **Python** and **SQL**, automating data ingestion and transformation from diverse sources into a centralized **Power BI** dashboard. Resulted in the elimination of manual processing for the procurement team and facilitated real-time tracking and visualization of processes.
- Partnered cross-functionally to gather data requirements, enhance database performance, and implement rigorous data quality checks. Delivered actionable insights through data visualization, boosting data accuracy and consistency by 20% for informed decision-making.

Senior Software Engineer, Seanergy Digital Services Oct 2019 - Aug 2022

- Streamlined patient care by crafting a unified portal, boosting accessibility and efficiency 30% for clinics and support teams. Crafted with **Ruby on Rails, MongoDB, DynamoDB**, and **AWS Lambda** microservices for scalability and security.
- Architected secure and efficient data (medical records) import pipeline with 25% faster processing using **AWS Lambda, Ruby on Rails, ETL** and **Redis**. Implemented PHI anonymization for compliance, leveraging cron jobs for streamlined data ingestion.
- Revolutionized Population Insights module (**Ruby on Rails, MongoDB, JavaScript, HTML, CSS, Docker**) for 20% critical data visibility boost and 20% usability improvement, empowering healthcare professionals with streamlined access.

Software Engineer, Healthcare at Home Oct 2018 - Oct 2019

- Designed and launched marketing campaign portal (**Ruby on Rails, MongoDB, Mailchimp, Redis, Sidekiq**) with streamlined user consent and account creation, boosting platform signups by 15%.
- Built a scalable payment infrastructure (**Ruby on Rails, MongoDB, JavaScript**) with integrated payment gateways (**Stripe, Braintree**) for seamless self-service invoices and online payments, resulting in a 20% uplift in timely payments.

Software Engineer, Mobiloitte Technology Jan 2016 - Oct 2018

- Architected and deployed advanced sales analytics dashboard (**Python, PostgreSQL, JavaScript, CSS, HTML**) with AWS cloud integration (**EC2, S3, Lambda**) for 25% improvement in data-driven insights and revenue growth.
- Developed a scalable live streaming platform with real-time audience engagement features (**Wowza, Wirecast, WebSocket, Ruby on Rails, Sidekiq, Redis, Google Firebase**) and cloud infrastructure (**AWS EC2, S3**) exceeding user engagement targets by 30%.

Projects

- Led development of machine learning pipelines, collaborating on research projects for recommending University of Illinois Springfield Performing Arts show buyers and creating an AI chatbot. Proficient in Python and ML libraries, implemented advanced data science techniques, including **Retrieval-Augmented Generation (RAG)** with **Large Language Model embeddings** for predictive analytics and targeted marketing.
- Developed a machine learning model using RNN and Transformer architectures to predict RNA sequence reactivity under chemical modifiers like DMS and 2A3. Employed character-level embeddings with bidirectional LSTM and time-distributed SoftMax for comprehensive analysis.

Additional Information

- Presented the research on the "Impact of Blockchain Smart Contracts on Operations and Supply Chain Management" at the **INFORMS Annual Conference 2023** in Phoenix, Arizona.
- Participated at **2023 SAM National Case Competition**: "Waste Management Challenges faced by the City of St. Augustine" (3rd Prize- Written & Presentation) in Nashville, Tennessee.