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

- **Cloud**: AWS RDS, AWS EC2, AWS Lambda, SNS, SQS, Aurora, Elasticsearch, Terraform, AWS S3, Heroku, Cloudinary
- **Microservices**: REST APIs, GraphQL, Docker, Kubernetes
- **Backend**: Ruby on Rails, Python, Django, SQL Server, MySQL, PostgreSQL, Redis, MongoDB, DynamoDB,
- **Frontend**: HTML, CSS, JavaScript, jQuery, SEO, TypeScript, Vue.js, Bootstrap
- **Data Analytics**: Python, R, LLM, NLP, Transformers, Tensorflow, PyTorch, Pandas, NumPy, PowerBI, Tableau
- **CI/CD**: Jenkins, GitHub, Git, Bitbucket
- **OS:** iOS, Linux (ubuntu)
- **Other Tools**: Rspec, Capybara, PyTest, New Relic, Datadog, JIRA

Work Experience

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

- Developed and deployed **Dockerized Laravel app** (**Vue.js**, **MySQL, Docker**) for global event scheduling, boosting scheduling meetings by 25% and optimizing advisor availability through improved accessibility and timezone 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.