Sanyam Shilpakar

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EDUCATION

University of Massachusetts Amherst | GPA: 3.86 | **09/2018 - 05/2022**
B.S. Informatics (Data Science) & B.S. Biology
• Member of the BioSci Club; Dean's List
• **Relevant Coursework**: Data Structures, Web Programming, Human-Computer Interaction, Intro to Data Science, Genomics & Data Science, Python for Genomic Data, Algorithms for DNA Sequencing, Practice and Application of Data Management, Mobile Health Sensing, Statistics Modeling/Health Data Science, Evolutionary Genomics and Bioinformatics

EXPERIENCE

CSX Transportation | Software Engineer | 01/2023 - Present
• Enhance backend functionality for enterprise-grade *Java* and *.NET* systems, reducing ticket resolution time by 25%
• Support frontend in Java apps using *JSP*, ensuring seamless frontend integration and UI performance.
• Resolve fast-paced database incidents and optimize *SQL* performance through query tuning and schema improvements.
• Collaborate with cross-functional teams to manage query depths and monitor server node endpoints for legacy app stability.
• Support Positive Train Control app consuming real-time rail sensor data via *Apache Kafka*, with performance monitoring through *Datadog*.
• Monitor application servers and manage deployments with *IBM WebSphere*, and automate builds with *Apache Maven*.
• Utilize *SLF4J* and *Log4j* to troubleshoot by analyzing integrated application logs.
• Automate build, test, and deployment pipelines with *Jenkins* and *Kubernetes*, ensuring continuous integration and deployment for Java.
• Manage version control with GitHub, using version snapshots and *GitOps* for safe deployments and infrastructure automation.

Tata Consultancy Services | Software Engineer | 09/2022 - 12/2022
• Engineered a full-stack banking portal using *Node.js*, *Express*, and *Angular*, integrating *JWT*-based authentication and *RESTful API*.
• Built middleware with *Angular HTTPClient* to handle API requests and responses
• Completed intensive onboarding on *Java*, *MongoDB*, *Angular*, and *Node.js*

Hazen Lab | University of Massachusetts Amherst | Lab Assistant | 09/2020 - 05/2022
• Manipulated, merged, overlapped and performed data wrangling on big plant genomic data using *dplyr*, *tidyr* and *DT* packages in R
• Built an interactive *Shiny app* dashboard using *ggplot2* to visualize and analyze large-scale plant genomic datasets.
• Used *Bioconductor* to perform statistical and graphical analysis of high-throughput plant genomic data.
• Sequenced and Visualized genetics variation between different species of plants using *DESeq* and heatmaps.

SELECTED PROJECTS

Tickle List: Tasks that tickle your productivity bone [Live Demo] | 2025
• Developed a full-stack, serverless app with a *React* frontend and *AWS* backend, enabling users to add, update, and delete tasks in real-time.
• Engineered *RESTful* APIs using Python-based AWS *Lambda* functions, with *API Gateway* providing secure *HTTPS* endpoints.
• Designed and implemented role-based access to *DynamoDB* via *IAM* policies tailored to HTTP request methods.
• Integrated *CloudWatch* for real-time logging and performance monitoring, improving observability and debugging efficiency.
• Built a responsive, state-driven UI in React for seamless API interaction and live task list updates.
• Deployed frontend to AWS *S3* & connected it with backend APIs to deliver a cloud-native, scalable task management solution.
• Validated API functionality and error handling using *Postman* to ensure robust and secure endpoints.

Weatherly: Weather based playlist generator | Fall 2020
• Designed and implemented a weather-driven music recommendation engine using *Node.js* and Spotify API for dynamic playlists
• Built a *SQL*-backed Node.js API for weather-based song recommendations, consumed by a dynamic *HTML/CSS/JS* frontend
• Integrated Weather and Spotify APIs to provide a user-friendly UI that dynamically updates Spotify's top 100 songs by weather

SKILLS

Languages: Java, Python, JavaScript, TypeScript, R, HTML/CSS
Frameworks/Libraries: Node.js, Angular, React, Express, .NET, JUnit, Shiny app
DevOps/Tools: Git, Jenkins, Datadog, Apache Kafka, Apache Maven, IBM WebSphere, GitOps, Kubernetes, Agile
Databases: MySQL, MongoDB, Oracle, PostgreSQL, DynamoDB
Cloud: AWS (EC2, S3, Lambda, DynamoDB, IAM, CloudWatch, API Gateway, SQS)
Testing/APIs: Postman, REST, JWT, A/B Testing, SLF4J, Log4j
Data Analysis/Visualization: ggplot2, dplyr, tidyr, DT, DESeq, Bioconductor