

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

