

Minura Samaranayake

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EXPERIENCE

Graduate Research Assistant

South Dakota State University

Brookings, SD

Aug 2023 – Present

- Leveraged Python and MATLAB to implement image processing algorithms, enhancing Landsat sensor data accuracy by 15% and reducing data noise by 8% during satellite validation.
- Applied statistical analysis on data validation pipelines for Landsat satellite sensors, improving automated data quality checks.

Software Engineer

Sysco LABS Technologies (Sysco Corporation)

Colombo, Sri Lanka

Oct 2022 – Aug 2023

- Designed and implemented scalable REST APIs, including a reward aggregation system that reduced query response times by 20% while managing 500,000+ monthly transactions.
- Developed a ranked item recommendation algorithm for Sysco Shop, optimizing transactions for over 1 million monthly users.
- Enhanced backend microservices using Spring Boot, Apache Kafka, and PostgreSQL, improving throughput by 25%.
- Automated CI/CD deployment pipelines using AWS, GitHub Actions, and ArgoCD, reducing deployment time by 30%.
- Improved a Kafka consumer to process configurations from multiple services, improving system efficiency by 20% through reactive handling and data persistence in PostgreSQL. Enhanced unit test (JUnit) coverage by 35%

Software Engineer Intern

Sysco LABS Technologies (Sysco Corporation)

Colombo, Sri Lanka

Apr 2022 – Sep 2022

- Created a Safety Wear Detection System using Python, React, GraphQL, and AWS, processing 30+ FPS with 99% accuracy.
- Built a full-stack e-commerce platform similar to Sysco Shop using React, NodeJS, MySQL, and AWS, supporting 500+ concurrent users.
- Debugged and optimized legacy code in Vue and Angular, reducing memory leaks by 15% and improving test coverage by 50%.
- Co-ordinated in building a Fuel Management System prototype using React, Spring Boot, MongoDB, and Dockerized deployments.

PROJECTS

Survey Management System | *NodeJs, React, MongoDB, Express, SurveyJs*

- Engineered a SaaS platform for 100+ users to design and manage surveys, reducing manual survey creation time by 40%.
- Created a custom API leveraging SurveyJS, which enabled creation of 50+ new survey templates with advanced features.

FYP in Brain Tumor Segmentation using MRI Images | *Python, OpenCV, Pytorch*

- Developed an ensemble model with Convolutional Neural Networks (CNNs) for Brain Tumor Segmentation using MRI images with a Mean Dice Score of 89%.
- Identified the most impactful MRI modality for tumor image segmentation and used Generative Adversarial Networks (GANs) to reconstruct missing modalities.

Learning Management System | *JavaScript, Python, Django, Selenium, Heroku*

Team Lead

- Devised an LMS platform serving 500+ students, using HTML, CSS, JavaScript, Django and PostgreSQL.
- Automated testing with Selenium and integrated a CI/CD pipeline via Travis CI, deploying on Heroku.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C++, JavaScript, TypeScript
- **Frameworks & Tools:** Spring Boot, Spring Core, Hibernate, Node.js, React, Docker, TypeScript
- **Database Management:** SQL, MySQL, PostgreSQL, MongoDB
- **Cloud Platforms:** AWS (S3, EC2, Lambda, VPC), Kubernetes, Datadog
- **APIs:** REST, GraphQL, SOAP
- **Version Control:** Git, GitHub, GitLab
- **CI/CD Tools:** Jenkins, GitHub Actions, Travis CI
- **Operating Systems:** Windows, Linux
- **Additional Skills:** Agile/Scrum, SDLC, Datadog, Pytorch, TensorFlow, Keras, Terraform

EDUCATION

Master of Science Electrical and Computer Engineering

South Dakota State University - Brookings, SD

Expected: May 2025

- * **Relevant Coursework:** Machine Learning, Advanced Image Processing, Statistical Methods, Time Series Analysis, Machine Vision Pattern Recognition

Bachelor of Science in Computer Science

University of Peradeniya - Sri Lanka

Jan 2018 - Sep 2022

- * **Relevant Coursework:** Object-Oriented Analysis and Design (Java), Software Project Management, Data Structures and Algorithms (C++), Database Management Systems (MySQL), Image Processing (Python)
- * **Achievements:** Prize for Excellence in Computer Science (2022), Deans List (2021/22), Rugby Captain 2021