Divya Durgavarjhula

EDUCATION

UNIVERSITY OF WISCONSIN - MADISON Madison, WI
Bachelor of Science in Computer Science and Data Science September 2021 - May 2025
Relevant Coursework: Algorithms, Data Structures, Operating Systems, Artificial Intelligence, Matrix Methods in Machine Learning, Databases

SKILLS

- **Concepts:** Object-Oriented Programming, Design Principles, Client-Server Protocol, Debugging and Testing
- **Languages**: Java, Python, HTML/CSS/JS, C/C++, C#, R
- **Databases/Frameworks/Libraries**: SQL, PyTorch, CUDA, Flask, MongoDB, Node.js, Spring Boot, Langchain
- **Operating Systems**: Linux/UNIX, Android, Ubuntu, Windows, macOS
- **Application/Web Development**: React, REST API, AWS, Git, Docker
- **Project Management:** Agile, Jira, Confluence, Bitbucket

PUBLICATIONS

Wang J, Bermudez D, Chen W, Durgavarjhula D, Randell C, Uyanik M and McMillan A (2024) Motion correction strategies for enhancing whole-body PET imaging. *Front. Nucl. Med.* 4:1257880. doi: 10.3389/fnume.2024.1257880

WORK EXPERIENCE

PUBLICIS SAPIENT | *Software Engineer Intern* New York, NY | June 2024 - August 2024
- Developed a chatbot integrated with client operations data, using Python, Google Cloud, Vertex AI, BigQuery, and Langchain to provide graphs, insights, and predictive analytics for senior leaders. Secured production approval after presenting the project to stakeholders.
- Led full-stack development using React, Node.js, and HTML/CSS/JS for seamless server-client communication and UI design.
- Translated multi-functional requirements, including predictive analytics and real-time graph generation, into practical engineering tasks.

MOLECULAR IMAGING / MAGNETIC RESONANCE TECHNOLOGY LAB Madison, WI
Research Assistant May 2023 - Present
- Designed, trained, and validated a MONAI DynUnet image segmentation model on 100+ whole-body CT images, achieving 93% predictive accuracy and utilizing PyTorch and CUDA for efficient deep learning computations.
- Implemented Docker to containerize and manage training jobs, ensuring reproducibility and streamlined deployment of the model in various environments. Evaluated and optimized techniques and configurations for the most effective training outcomes.
- Currently researching t-SNE image embedding techniques and retrieval-augmented generation for text-to-image models.

Undergraduate Researcher September 2022 - May 2023
- Utilized deep learning to optimize medical image segmentation, specifically using a spleen image dataset.
- Trained a PyTorch MONAI model and evaluated validation accuracy for various model configurations.

QIDDS (Startup) | *Software/Data Engineer* Fremont, CA | August 2023 - Present
- Developed a Spring Boot-based Java application to automate the import of academic resource data from Excel sheets into a PostgreSQL database, and implemented RESTful API endpoints to efficiently retrieve data.
- Integrated AWS secrets manager to securely manage API keys, database credentials, and any other sensitive information.
- Led efforts to integrate a chatbot to enhance user interaction and automate responses to common queries.

DYNAMIC DDX (Research/Startup) | *Full-Stack Web Developer* Madison, WI | January 2023 - Present
- Developed an interactive online wiki to organize/retrieve information from textbooks and electronic health records, aligning with the diagnostic thought process. Used React/Node.js to handle server-client logic and API requests, and SQL for efficient database management and querying.
- Co-authored a publication detailing the project, currently under review.

UW-MADISON DEPARTMENT OF STATISTICS | *IT Help Desk Technician* Madison, WI | October 2022 - May 2024
- Provided in-person and virtual technical support to faculty and students by troubleshooting software, hardware, and network issues.
- Maintained inventory logs and write Bash scripts to automate time-consuming tasks, such as printer checks or monitoring TCP/IP port statuses.

PROJECT EXPERIENCE

COOK SMART (Mad Data Hackathon) Madison, WI | February 2023
- Collaborated with a team to build a meal-planning web app for busy college students, utilizing MongoDB, PyMongo, and Flask to parse ingredient data and generate food options based on diet preferences.
- Designed an interactive UI with HTML, JS, and Bootstrap, and applied Python NLP techniques to generate word clouds from student survey data on current vs. ideal diets. Presented the project to peers and judges.

COBIZ (Personal Project) Fremont, CA | May 2020 - October 2020
- Designed/developed a Java program to call COVID-19 data APIs with data for different countries, show data based on various search criteria, and display relevant trends.
- Published the Android app to Google Play, reaching 100+ downloads, and deployed the application backend to the cloud.