RITVIK RANGARAJU

(609) - 921 - 4921 | rrangara@terpmail.umd.edu

github.com/rrr-ritz | linkedin.com/in/ritvik-rangaraju

Education

University of Maryland   **College Park, MD**

B.S. Computer Science; Minor: Spanish Language & Culture   *Expected Graduation: May 2026*

Relevant Coursework: Deep Learning, Computer Vision, Data Science, Network Security, Computational Photography, Web Development, Algorithms, Data Structures, Computer Systems, Linear Algebra

Professional Experience

Amazon Web Services (AWS)   **May 2025 — August 2025**

Incoming Software Development Intern   *Seattle, WA*

- Engineering at DynamoDB.

Peraton Labs   **June 2024 — August 2024**

Software Engineering Intern   *Basking Ridge, NJ*

- Engineered an autonomous deep learning model training utility that improved location and network status prediction accuracy for active tactical assets by 20%, in support of DARPA project MINC (Mission Integrated Network Control).
- Implemented a pull-based, synchronous re-training scheme that reduced model update latency by 30%, ensuring high-fidelity predictions for moving assets.
- Designed customizable and extensible tool, significantly streamlining configuration time and operational efficiency.

SEQ Technology   **May 2023 — August 2023**

Software Engineering Intern   *New York, NY*

- Created an intelligent data analysis and visualization dashboard that enables users to input queries in natural language and rapidly generate business-critical insights from vast and diverse internal datasets.
- Fine-tuned the DistilBERT language model, boosting recognition and interpretation accuracy by 15% for domain-specific queries in finance and human resources.
- Developed and containerized full-stack service primarily in React, Express.js, MongoDB, and EJS.

Codivate   **May 2020 — July 2022**

Co-Founder & CTO   *West Windsor, NJ*

- Founded an ed-tech nonprofit and CS-tutoring platform that engages learners through interactive content.
- Drove vision, leading teams in software, curriculum, and marketing – reached 3500+ students across 10 chapters.
- Achieved widespread media recognition; awarded President's Volunteer Service Award (Gold) by President Biden.

Projects

Pulsar Classification with GAN-Augmented Hybrid CNN-LSTM Models   **April 2024 — May 2024**

- Built on the work of Connor et al. (2018) by developing a hybrid deep learning model using CNN and LSTM architectures to classify a wide variety of Pulsars – a type of Neutron star – based on signal information.
- Utilized Generative Adversarial Networks to generate synthetic data for underrepresented pulsar classes, significantly balancing the dataset and improving recall for those classes by 25% through augmented data.
- Applied noise reduction techniques including wavelet transforms, bandpass filtering, and spectral subtraction, reducing false positives by 15% and achieving 92% overall accuracy on a diverse validation set.

Sudoklash | *React, Express.js, MongoDB Atlas, Socket.IO*   **July 2023 — August 2023**

- Launched real-time multiplayer Sudoku game that enhances traditional competitive gameplay through various features.
- Implemented client-server sync using Socket.IO, ensuring seamless updates to game state for players in real time.
- Developed and deployed responsive and high-performance full-stack web app using the MERN stack.

Technical Skills

Languages: Java, Python, C, JavaScript, HTML, CSS, Rust, OCaml, Bash, SQL, MATLAB, Assembly

Libraries: TensorFlow, PyTorch, Scikit-learn, NLTK, SpaCy, Seaborn, Pandas, NumPy, SciPy, Matplotlib, Socket.IO

Technologies & Frameworks: Git, Docker, Linux, Node.js, React, Express.js, Flask, Django, MongoDB, PostgreSQL