

Maya Devarajan

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY

May 2024

Bachelor of Science, Biomedical Engineering *Magnum Cum Laude*

PROFESSIONAL EXPERIENCE

Dassault Systèmes, MBSE Software Architect

July 2024-current

- Work within a model-based engineering environment to develop digital models of products and processes for major industry clients, including Boeing, NVIDIA, and Apple.
- Design and implement reusable data pipelines to automate near real-time aggregation of model-based engineering data, enabling scalable analytics, traceability, and performance monitoring across systems.
- Lead consulting engagements for SysML v2 adoption, advancing language-based modeling approaches and model-driven, data-centric, and intelligent automation strategies.
- Develop frameworks to enable scalable agent orchestration, improving reliability, interoperability, and the effectiveness of agent-driven systems

Merck & Co., *Vaccine Manufacturing Intern*

May -August 2023

- As a data analytics intern in vaccine manufacturing technical operations, worked with Microsoft Power Platforms to develop dashboards and reports for different business purposes.
- Gained expertise in Power Query, DAX, and SQL to streamline data transformations, enhancing data visualization in Power BI dashboards.
- Successfully implemented three solutions in production, facilitating tracking of disinfection levels in diverse areas, enhancing quality notification processes across teams, and delivering timely status updates for critical biological samples to relevant stakeholders.

Cornell Tech, *Machine Learning Researcher*

Jan 2022-August 2023

- As an undergraduate researcher, designed and implemented a BERT unsupervised machine learning model for deidentifying electronic health records (EHRs) in collaboration with Cornell Weill Medical School, employing Natural Language Processing techniques.
- Aided the team in establishing a comprehensive pipeline using a black box model to monitor the model's performance and conducted rigorous statistical analyses to validate its outcomes.
- Fine-tuned the BERT model for EHRs to improve contextual understanding of medical data, utilizing cross-validation and performance metrics to assess model effectiveness and prevent overfitting.

RESEARCH EXPERIENCE

Building Neural Networks to Segment Dendrite Images, Cornell University, *Undergraduate Researcher* Jan-May 2022

- Developed and trained a neural network to segment and classify dendrite growth in neurodegenerative disease bioimages as part of a microbiology lab research project.
- Utilized Fiji and other image analysis tools to create ground truth datasets for training machine learning models.
- Coded and fine-tuned the UNet segmentation model using TensorFlow, optimizing it for high-accuracy segmentation.
- Implemented the final model in the lab's workflow, enabling researchers to streamline data analysis and enhance their research on neurodegenerative diseases.

SPECIALIZED SKILLS

Certifications: Sequence Models (Jan 2022), Convolutional Neural Networks (Aug 2021), Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization (Aug 2021), Structuring Machine Learning Projects (Aug 2021), Neural Networks and Deep Learning (Jul 2021), Java Programming: Solving Problems with Software (Oct 2024)

Programs: Python, Java, JavaScript, SQL; PyTorch, TensorFlow, MATLAB; Distributed Systems & Web Services; Machine Learning & Deep Learning; Natural Language Processing (NLP), Transformer Models (BERT); Model Development, Fine-Tuning, and Evaluation; Data Engineering & Analytics (Power BI, Power Query, DAX)

Skills: Applied Machine Learning & Algorithm Design; Experimental Design & Rapid Prototyping; Scalable System Thinking; Cross-Functional Collaboration (Product, Engineering, Science); Analytical Problem Solving; Clear Technical Communication; Ownership & Execution in Ambiguous Environments; Attention to Detail & Data Integrity; Responsible Data Handling & Confidentiality

Languages: Spanish (fluent)