Sanjana Pendharkar

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Education

Rutgers University, New Brunswick **August 2022**
Bachelor of Science (Honors) in Computer Science, Minors in Math and Biology *New Brunswick, NJ*

Experience

MITRE **December 2021 – Present**
Technical Research & Advisory Firm for 42 National FFRDCs and DoD
Principal Investigator *McLean, VA*
- Led an independent research study, "The Third Eye", having secured $95,000 in grant funding to build an iOS application tailored for low vision individuals to navigate train stations
- Developed an iOS application prototype to enhance navigational accuracy for low-vision individuals, successfully tested with mentors, laying groundwork for future beta testing and real-world impact
- Advanced academic discourse in the field by preparing 3 manuscripts for journal submission, as measured by a comprehensive literature review
- Cultivated strong relationships with 5+ MITRE sponsor advocates in VA/VHA, as measured by ongoing collaboration and effective communication, by translating needs of key stakeholders into user interface design
- Tools: Swift, PyTorch, Hugging Face

Intermediate Data Scientist *McLean, VA*
- Redesigned and refactored code-base for a Flask/SQL application quantifying AI trust and trustworthiness, hosting product on AWS
- Developed novel prompt engineering methodologies to serve as middleware for MITRE's Internal ChatGPT implementation, using chunking for effective summarization
- Applied LoRA and QLoRA to fine-tune state of the art Hugging Face Transformers models for defense sponsors
- Tools: SQL, Python, JavaScript

Loyal For Dogs **August 2021 – January 2022**
Series A Biotech; First FDA Approved Drug for Dog Longevity
Software Engineer Intern *Remote*
- Enhanced user experience and operational efficiency by contributing to the development of a production website using TypeScript, React, and GraphQL, achieving a 15% improvement in runtime, and supporting the company's goal of delivering a high-performance, interactive website to 1,000+ dog owners
- Pioneered an innovative independent experiment using computer vision algorithms (ResNet, AlexNet, VGG16) and data science techniques (PCA, Bayesian statistics) to detect emotions in dogs, expanding potential market applications
- Tools: Python, TypeScript, React, GraphQL

Technical Skills

Languages: Python, SQL, Swift, JavaScript, TypeScript, HTML/CSS, Java, C
Technologies/Frameworks: PyTorch, TensorFlow, Hugging Face, React, Jekyll, Git, Figma, GraphQL, MongoDB

Leadership

MITRE: Technical Book Club **May 2023 – August 2023**
Lead Organizer *McLean, VA*
- Addressed an unmet need of technical understanding of complex database systems in department by creating a deck for and leading collaborative discussions on the "Designing Data-Intensive Applications" O'Reilly textbook
- Efforts led to improved team competency and a more collaborative learning environment in the department, and cultivated team expertise in database management

Catalysts For Change **March 2021 – October 2022**
Founder *New Brunswick, NJ*
- Description: A summer social justice fellowship for high school students to build technical projects or research studies for funding opportunities
- Led go-to market strategy and primary research on market segments, quantifying market opportunity, resulting in customer acquisition rate of 65%
- Developed a software development project curriculum for technical instructors to adapt in the creation of their course structure, outlining object oriented programming, Twitter API integration and database management
- Formulated sales pipeline to generate ~$5,000 revenue for first cycle