Arush Manem

MN, 55379 | manem008@umn.edu | 612-913-1968 | LinkedIn | Portfolio

EDUCATION

University of Minnesota, Twin Cities **Minneapolis, MN**
Degree: Bachelor of Science, Honors Program *May 2028*
Majors: Data Science and Computer Science
GPA: 3.76

SKILLS

Technical: Python, OCaml, SQL, PyTorch, Java, C/C++, R, React, Node.js, HTML/CSS, TypeScript, Power BI, GitHub, Jira, Docker, Powershell, NumPy, Pandas, ETL, Matplotlib, RStudio, Machine Learning (Random Forests, Feature Engineering)
Soft: Problem-Solving, Critical Thinking, Collaboration and Teamwork, Interpersonal Skills, Written and Verbal Communication

EXPERIENCE

HealthPartners **Bloomington, MN**
Software Engineering Intern - Robotic Process Automation *Current*
Promoted from High School Technology Intern (2024)

- Engineered scalable automation systems in UiPath/VB.NET to streamline claims processing, QA, and multi-system testing, reducing execution cycles and saving **37,000+ hours per year** collectively
- Collaborated with developers, business analysts, and stakeholders as part of a team collectively saving **$2M+**, and producing **$3.5M+ in additional revenue** to design production-ready solutions aligned with enterprise strategy
- Identified and assessed numerous opportunities for implementing automation through meetings with company clientele, **including Fortune 500 enterprises**, driving task automation adoption and contributing to a **3-year projected ROI of $3.86M**
- Contributed to automating **1.3M+ tasks** which were previously the responsibility of a human
- Built and maintained ETL pipelines to extract, transform, and analyze healthcare claims data **(4,000+ records run)** for operational analysis
- Applied software engineering practices to create resilient bots capable of adapting to dynamic inputs
- Automated web testing workflows for UI regression coverage, shortening release cycles and enabling faster deployment of business-critical systems, **improving efficiency by 90%**
- Explored **AI-assisted orchestration** (UiPath Maestro), integrating intelligent decisioning into multi-system processes, reflecting early experience with intelligent, distributed automation
- Developed and maintained technical documentation detailing automation development and maintenance, **reducing update and implementation time by 70%** and supporting scalable, long-term solutions

PROJECTS

SnapCount | *Python, React, FastAPI, Pandas, Recharts* **Minneapolis, MN**
NFL Fantasy Analytics Platform *December 2025*

- Engineered a full-stack predictive analytics platform using **FastAPI and React**, integrating robust data processing with a responsive user interface (currently fine tuning and planning to deploy)
- Developed an automated **ETL pipeline** to scrape, clean, and cache over **5,000+ weekly records** using the ‘nfl_data_py’ library and Pandas, ensuring real-time data availability
- Designed a custom statistical algorithm to quantify defensive metrics and forecast player performance, processing historical variance to generate "Start/Sit" recommendations
- Engineering a deep learning inference pipeline using **PyTorch**, replacing legacy rule-based logic with a neural network to forecast player performance based on historical matchups and home-field advantage.
- Integrated **Google Gemini LLM** via Python to generate context-aware, natural language player recommendations, implementing robust error handling and retry logic for API rate limits
- Implemented interactive data visualizations with Recharts, allowing users to perform comparative analysis on player trends and matchup efficiency
- Optimized API response times and data throughput by implementing server-side caching and efficient data frame filtering

Insurance Risk Assessor | *Python, Jupyter* **Minneapolis, MN**
Machine Learning System *July 2025*

- Built and deployed a **modular ETL pipeline** for preprocessing, outlier detection, and feature generation, including smoker–age and BMI–age interactions
- Trained and optimized a Random Forest regression model achieving **$R^2 = 0.88$** and **MAE ≈ $2,600**, enabling accurate insurance cost projections
- Packaged model with Pickle for reproducible, real-time deployment
- Applied SHAP explainability to interpret feature impacts and inform stakeholders

Spider-Verse Explorer **Minneapolis, MN**
Full-Stack Web Application *June 2025*

- Developed an interactive application featuring character and merchandise exploration that utilizes **React, Node.js, and SQLite**
- Designed **RESTful APIs** to handle complex relational queries and implemented state management (favorites, shopping cart) with localStorage
- Optimized application performance with lazy loading, efficient data fetching, and error boundaries, delivering a resilient user experience
- Demonstrated systems architecture thinking through end-to-end design — database schema, API layer, and responsive front-end

LEADERSHIP & PROFESSIONAL DEVELOPMENT

Data Science Club **Minneapolis, MN**
Active Member *September 2024 – Current*

- Presented insights on cutting-edge data analytics methodologies in industry forums
- Engaging in industry networking and professional development through meetings with insurance leaders, career fairs, and workshops

National Organization of Business and Engineering (NOBE) **Minneapolis, MN**
Active Member *May 2025 – Current*

- Engage in weekly professional development workshops to bridge the gap between technical engineering concepts and business strategy
- Network with industry representatives from companies like McKinsey & Company and Emerson to gain insight into corporate consulting and engineering management
- Collaborate with cross-functional teams of engineering and business students to analyze industry case studies and market trends

Student Advisory Board **Shakopee, MN**
Team Leader *September 2020 – June 2024*

- Developed a website using **HTML and JS** to help match students of all ages with tutors by analyzing student issues