Pranav Karra

973-723-0071 | pkarra@andrew.cmu.edu | linkedin.com/in/pranavkarra | github.com/Pranav-Karra

Education

Carnegie Mellon University **Pittsburgh, PA**
B.S. in Computer Science *May 2027*

Relevant Coursework: Data Structures & Algorithms, Functional Programming, Intro to Computer Systems, Discrete Math in Computer Science, Great Theoretical Ideas of Computer Science, Linear Algebra, 3D Vector Calculus

Experience

Try-Catch Robotics **Bridgewater, NJ**
Software Developer *May 2025 – Present*

- Developed 30+ embedded software examples using Arduinos and C++ for instructional code on robotics projects
- Engineered over 20 custom robotics kits with micro-controllers, sensors, and electrical components for students
- Utilized Git for version control and code management to ensure consistency and reproducibility across projects

Tata Motors **Hyderabad, India**
Full-Stack Developer Intern *July 2024 – Aug. 2024*

- Collaborated with SWEs using Javascript and HTML to develop UI enhancements such as interactive widgets and AI chatbots to improve dealership's website, leading to a 15% increase in online inquires and customer engagement
- Integrated RESTful APIs (Google Ads API) to automate targeted advertising campaigns and streamline backend data workflows, enabling real-time ad updates based on user behavior and increased online sales conversions
- Developed Search Engine Optimization algorithms to boost marketing visibility, raising website traffic by 25%

New Liberty Pharmacy **Allentown, PA**
Inventory Automation Developer *Sep. 2022 – June 2024*

- Took initiative to develop a product management system to track 100+ daily financial orders and transactions
- Utilized Excel functions and VBA macros to create multi-table queries and automated inventory calculations
- Simulated an SQL relational database model using Primary Keys, Foreign Keys, and Data Validation

Projects

Story.0 | *Python, React, OpenAI API, HTML* Jan. 2024 – Mar. 2024

- Built a full-stack web-app using React and Python, converting classic literature PDFs into visual children's stories
- Extracted narrative elements from user input with Python backend and leveraged OpenAI's API using advanced prompt engineering to generate concise text and AI-generated illustrations with accurate character descriptions
- Optimized client-side requests and AI prompt workflows, reducing user wait-times and boosting image consistency
- Partnered with local library in Pittsburgh and fostered youth interest in literature to 5 cohorts of pre-schoolers

NFL Predictor Machine Learning Model | *Python, Pandas, NumPy* Oct. 2024 – Dec. 2024

- Designed a Logistic Regression model in Python to predict NFL game outcomes, achieving 72% accuracy
- Scraped, cleaned, and integrated data from play-by-play and box score datasets containing 1000+ rows of historical NFL match stats from CSV files using Pandas and NumPy libraries
- Applied 10-fold cross-validation to fine-tune hyper-parameters and evaluate model robustness
- Trained and tested the model in Jupyter Notebook within Google Colab, leveraging cloud-based resources

Carbon-Sim | *React, Javascript, CSS, VSCode* Sep. 2024 – Oct. 2024

- Developed a dynamic CO2 Emissions Simulator using a React UI to highlight political policy changes
- Integrated sliders to simulate the effects of 10+ transportation and energy policies on carbon emissions over time
- Visualized projections using published research data, mathematical models, and social science data with Chart.js

Technical Skills

Languages: Python, C/C++, Java, JavaScript, SQL, HTML/CSS, SML
Tools/Frameworks: Git, AWS, Linux, Docker, React, Django, Node.js, TailwindCSS, Vercel, Vite, VSCode
Libraries: PyTorch, TorchVision, OpenCV, Matplotlib, Pandas, NumPy, Scikit-learn, Chart.js
Interests: Software Engineering, Artifical Intelligence, Machine Learning, Computer Vision, Financial Technology