Pranav Puritipati

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EDUCATION

The Pennsylvania State University — University Park, PA
Computational Data Sciences / Bachelor of Science / College of Engineering — *May 2025*

TECHNICAL SKILLS

- **Languages/ Operating Systems:** Python, C++, Java, JavaScript, C, R, Linux, macOS, Windows
- **Software/ Frameworks and Tools:** MS Office Suite, SQL, HTML5, CSS, Slack, JSON, Django, RDBMS, GitHub, Apache, UTM, AWS Lambda, Tableau, Docker, TensorflowLib, Pandas, AWS Lamda, Redis, Rabbit mq, Numpy, scikit-learn, TKinter, SeaBorn, Matplotlib, LLM, NLP.
- **Courses:** Data Management for Data Sciences, Database Management Systems, Programming Language Concepts, Data Structures and Algorithms

WORK EXPERIENCE

Rayreach Technologies — Chennai, TN
ML Engineer Intern — *June 2023 - Aug 2023*

- Spearheaded the development of "Rayvision: PPE Violation Detection" by collaborating with OSHA and FDA to create a real-time safety system. Leveraged YOLO, OpenCV, and Neural Networks, resulting in a 40% reduction in PPE violations and a 25% improvement in monitoring efficiency.
- Designed and implemented user-friendly dashboards and a mobile app for instant reporting and alerts, reducing reporting time by 50% and enhancing client response rates.
- Engineered deep learning algorithms for real-time violation detection, achieving a 95% accuracy rate in identifying PPE violations, thereby ensuring top-notch safety and compliance standards.

Chools Group — Johnstown, PA
Data Science Intern — *May 2022 - Aug 2022*

- Automated over 45,000 records into Tableau dashboards, creating interactive and user-friendly visualizations that enhanced data exploration and streamlined reporting processes, reducing data processing time by 60% and increasing reporting accuracy by 40%.
- Conducted four types of advanced analytics on the data, including statistical analysis, hypothesis testing, predictive modeling, and trend analysis. This comprehensive approach resulted in actionable insights that improved decision-making accuracy by 35% and identified key growth opportunities.
- Collaborated with cross-functional teams to identify and implement opportunities for data-driven decision-making and process optimization. This led to a 20% increase in operational efficiency, a 15% reduction in costs, and improved overall business performance.

AI Edge — Hyderabad, TS
AI & ML Intern — *Aug 2022 - Dec 2022*

- Played a pivotal role in the development of Digital Sense, a software designed to efficiently capture information from humans and transform it into structured data at the source. This resulted in a 50% reduction in manual data entry errors and a 70% improvement in data processing speed.
- Utilized R-CNNs to transform scanned documents, forms, and handwritten data into structured data, improving the digitization process for customers by over 70% and increasing overall data accuracy by 65%.
- Assisted in creating seamless connection between human resources, such as sales, support, and back office teams, and enterprise software, reducing cycle time by 30% and enhancing customer experience by 40%.

PROJECTS

Chess AI Project (*Advanced Minimax and Neural Network Bots*) — *Apr 2024*

- Developed two types of bots one using minimax with alpha-beta pruning and another using neural networks and deep learning consistently outperforming chess.com bots with an ELO of 1000.
- Designed the neural network to predict optimal moves by encoding board positions, leading to accurate and strategic gameplay. Integrated advanced move evaluation techniques, such as piece-square tables and central control bonuses, to improve game strategy and performance.
- Utilized TensorFlow to build a neural network with Conv2D layers, dropout regularization, and dense layers. Employed alpha-beta pruning in the minimax algorithm enhancing move evaluation efficiency and speed.

Spotify Genre Analysis (*Data Management for DS*) — *Dec 2023*

- Analyzed and visualized genre popularity, track features, explicit content, track duration, artist diversity, and lyrical attributes using Python libraries such as Pandas, NumPy, Matplotlib, and Seaborn. Identified key trends and patterns to provide actionable insights.
- Built machine-learning models to classify songs by genre and evaluate the relationship between track features and popularity. Employed techniques like correlation heatmaps and regression analysis to uncover factors influencing track success, achieving significant findings on genre-specific characteristics and track attributes.