VARUNTEJ KODANDAPURAM

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EDUCATION

College of Engineering, Michigan State University, East Lansing, MI — Aug 2023 – Dec 2024
Master of Science, Computer Science — GPA: 3.81

College of Engineering, Michigan State University, East Lansing, MI — Aug 2019 – May 2023
Honors in Bachelor of Science, Computer Science, Minor in Business — GPA: 3.82

WORK EXPERIENCE

Software Developer | ***Python, TensorFlow, PyTorch, NLP, Web Scraping, AWS*** — Mar 2025 – Present
PackSense, East Lansing, MI

– Partnered with packaging engineers and researchers to design and develop AI/ML models that diagnose and optimize packaging performance, directly impacting sustainability efforts
– Engineered an automated web scraping framework using Beautiful Soup to extract customer review data from multiple e-commerce platforms, facilitating targeted NLP analysis
– Built an AI-powered packaging vocabulary dictionary by extracting keywords and their associations from customer reviews using TF-IDF and FP-Growth
– Created dynamic dashboards with Power BI, Tableau, and Python Dash to visualize key performance metrics and packaging trends, supporting real-time decision-making

ML Engineer | ***Python, TensorFlow, PyTorch, Statistical Modeling, Data Analysis, AWS*** — Feb 2025 – Present
Michigan State University, East Lansing, MI

– Developed predictive machine learning models that forecast human communicable disease incidences by integrating wastewater surveillance data with clinical, mobility, and behavioral datasets
– Designed robust data pipelines for the acquisition, cleaning, and fusion of datasets from CDC, mobility, and behavioral sources, ensuring high data quality for model training
– Developed a dual-model outbreak detection framework using ARIMAX regression for forecasting clinical trends from wastewater data and a transformer-based few-shot model for outbreak classification
– Leveraged deep learning frameworks like TensorFlow & PyTorch to design, fine-tune, and validate models, employing rigorous cross-validation and hyperparameter tuning to enhance prediction accuracy

Graduate Teaching Assistant | ***C++, Linux, C, ARM, LLMs, Discrete Mathematics*** — Aug 2023 – Dec 2024
Michigan State University, East Lansing, MI

– Directed interactive C++, C, ARM programming labs for 100+ undergraduates and collaborated with faculty to design curriculum materials, boosting assignment completion rates by 30% and exam scores by 10%
– Mentored students in using Linux and LLMs, significantly raising proficiency levels across the course
– Facilitated weekly code review sessions, sharpening debugging skills and increasing code quality among students

Full-Stack Developer | ***Python, Power BI, AWS, NLP, Project Manager*** — Sep 2022 – Dec 2022
United Airlines, East Lansing, MI

– Engineered algorithms for United Airlines Learning Management System (LMS) that evaluates quiz efficacy by comparing students average scores, enhancing course assessment accuracy by 30%
– Leveraged data visualization tools to enable quick identification of performance trends, thus reducing data analysis time by 40%
– Built a user-friendly User Interface for United Airlines LMS, enhancing accessibility and increasing user engagement by 35%
– Optimized data processing scripts, cutting report generation time by 50% for the client

Robotic Process Automation Developer | ***UIPath, VB.net, C++, SQL, Product Manager*** — Nov 2021 – Aug 2022
Delta Dental of Michigan, Okemos, MI

– Utilized C++ along with UIPath to build virtual bots that automate certain business tasks in the company
– Automated the alignment of Delta Dental's agent lists with government records, achieving a 95% accuracy improvement
– Implemented bots on virtual machines for role-based data sorting across 500+ roles, reducing data retrieval times by 50%
– Led RPA project initiatives and coordinated with cross-functional teams, improving project delivery speed by 20%

CERTIFICATIONS

Project Management Professional Training (35 PDU Contact Hours)	**TIA Education Group**	Jan 2025
AWS Certified Solution Architect	**Amazon Web Services**	Oct 2024
Salesforce Certified AI Associate	**Salesforce (Trailhead)**	Oct 2024

RESEARCH PROJECTS

Graph Convolutional Network for Node Classification | *Python, PyTorch, LLM, ML* — Jan 2024 – May 2024

– Developed a Graph Convolutional Network (GCN) using PyTorch, attaining 93.7% accuracy in node classification
– Enhanced model performance through extensive hyperparameter tuning and applying dropout and weight decay

Credit Card Approval Model Prediction | *Python, MATLAB, ML, GenAI* — Aug 2023 – May 2024

– Implemented and evaluated ML models, including Logistic Regression, Decision Trees, SVM, Perceptron, achieving 84.71% accuracy with SVM (linear kernel) for credit card approval prediction using the UCI dataset
– Conducted comparative analysis of classifiers using accuracy and feature importance, highlighting SVM and Logistic Regression for effective credit risk assessment

TECHNICAL SKILLS

– **Programming Languages:** Python, C++, C, ARM, JavaScript, VB.NET, HTML, CSS, SQL, OpenGL, MATLAB
– **Data Visualization:** Excel, Microsoft Power BI, Python (Matplotlib, Seaborn, Plotly)
– **Development & Deployment Tools:** AWS, Microsoft Azure, Salesforce, Docker, Git
– **ML Libraries:** TensorFlow, Keras, PyTorch, scikit-learn, pandas, NumPy
– **Project Management Tools:** Agile, Waterfall, Gantt Charts, Trello, Jira, SDLC, ML feature cycle, Scrum