

# Sowmya Kothwalgudem

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## Education

### **University of Dayton, Masters in Computer Science**

May 2023

Relevant Coursework: Data Science and Deep Learning, Image Processing/Advanced Computer Vision, Adv. Programming & Data Structures, Algorithm Design, Database Management Systems.

## Experience

### **Associate Professional Software Engineer, DXC Technology** - India

June 2020 - May 2021

- Conducted healthcare data analysis using SQL and Python, applied statistical analysis, machine learning, and created interactive visualizations with Plotly.
- Developed data analysis dashboards using AWS QuickSight, empowering clients to make data-driven strategic decisions, maximizing project outcomes by 20-fold.
- Utilized indexing and query optimization techniques to enhance the efficiency of a relational database, resulting in a 50% reduction in database query execution time.
- Collaborated on a project utilizing PySpark to analyze customer behavior data, resulting in a remarkable 15% enhancement in customer support resolution times.
- Constructed deployment scripts, automation workflows, and CI/CD pipelines to streamline software delivery using Docker.

### **Software Developer Intern, Mahindra Rise** - India

July 2019 – June 2020

- Leveraged Pandas and NumPy to analyze a dataset of customer feedback, identifying key trends and insights that contributed to a 15% improvement in product design.
- Utilized Agile methodologies, contributing to a 20% reduction in project delivery time by actively engaging in daily stand-ups, sprint planning, and retrospectives.
- Worked with AWS to deploy applications on cloud infrastructure, achieving a 25% reduction in server maintenance costs.
- Employed HTML, CSS, and JavaScript to create interactive and responsive web pages, resulting in a 40% improvement in overall user experience.

## Skills

Technical Proficiencies: Python, SQL, JavaScript, HTML/CSS

Databases: MS SQL, PostgreSQL, MongoDB (NoSQL)

Cloud Platforms: AWS (EC2, S3, Lambda, CloudFormation), DataBricks

Frameworks/Version Control Systems: Flask, Django, PySpark, Docker, Git

## Projects

### **KPMG AU Data Analytics (Virtual Internship)**

May 2023

- Conducted data quality assessment, identified valuable customer segments through demographic and attribute analysis, and utilized Python and Tableau for impactful data visualization and insights.

### **Fake News Detection**

May 2023

- Developed and trained a Bidirectional Neural Network and LSTM-based deep learning model to detect fake news.
- Conducted rigorous exploratory data analysis, data cleaning, and visualization to prepare the dataset for modeling, improving data accuracy by 25% and reducing error rate by 15%.
- Achieved noteworthy model performance with an accuracy rate of 98%

### **Data Science Web App with Streamlit and Python**

April 2023

- Loaded and cached a Motor Vehicle Collisions data set of about 10000 rows, reducing data retrieval time by 30%.
- Transformed user experience by leveraging interactive map visualization and interactive tables, leading to a 30% increase in data exploration efficiency.

### **Advanced Object Detection Model**

January 2023

- Engineered a high-performing object detection model using supervised machine learning techniques, achieving 95% detection accuracy.
- Adapted an image classification CNN (dataset of 1000-2000 cat and dog photos) for object detection, leveraging convolution layers to extract intricate visual features and improve accuracy by 14%.

## Activities

### **Catalog Student Assistant, University of Dayton**

(September 2022 - May 2023)

- Enhanced library catalog maintenance through software-driven processes and MARC standards, deploying robust tools for editing over 10,000 records to achieve streamlined data management.

## Certification

- AWS Certified Cloud Practitioner