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Akash Sivakumar

Data Scientist

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EDUCATION

Master of Science in Computer Science

Arizona State University

- CGPA: 3.81

Coursework: Data Visualization, Distributed Database Systems, Natural Language Processing, Planning/ Learning Methods in AI

Expected May 2025
Tempe, Arizona, USA

Bachelor of Technology in Computer Science (Specialization in AI and ML)

Vellore Institute of Technology

June 2023

- CGPA: 3.865

Coursework: Computer Vision, Video Analytics, Medical Image Processing, Reinforcement Learning, Human-Machine Interaction

Chennai, Tamil Nadu, India

TECHNICAL SKILLS

Data Science & ML: TensorFlow, Keras, PyTorch, OpenCV, Jupyter, MLOps, NumPy, Pandas, Matplotlib, Scikit-learn, SciPy

Programming Languages: Python, C++, C#, .NET Core, .NET WPF, ASP.NET, HTML, CSS, JavaScript, D3.js, R

Databases: SQL, PostgreSQL, MongoDB, Data Modeling, Amazon S3, Azure SQL, Apache Cassandra, Pinecone, ClickHouse

Frameworks & Tools: Flask, Django, REST API, Git, CI/CD, Docker, Kubernetes, Kafka, JIRA, Snowflake

Cloud Services: Amazon (EC2, SageMaker, Lambda), Azure Machine Learning, Azure DevOps, Azure Databricks, Jenkins

Big Data & Performance Optimization: Spark, Hadoop, ETL Pipelines

EXPERIENCE

Software Engineer

June 2025 -- Present

AMBATECH LLC

- Independently developed and collaboratively contributed to two projects that evolved into new company products.
- Worked with a team to create a medical AI imaging application to mark affected tissues in laparoscopy procedures.
- Established partnerships with 10 new medical professionals to curate dataset of real-time medical images and videos.
- Created a GUI application using Tkinter to scan XML/PDF reports and select visual media for archived annotation files.
- Administered a self-hosted CVAT AI portal for medical dataset annotation, managing user access and system operations.
- Leveraged AWS services, including Amazon EC2 for hosting, S3 for data storage, and SageMaker for model training.
- Deployed into NVIDIA Jetson Orin for real-world application.
- Led the development of a mobile application for surgical video recording and documentation using MAUI.NET and SQLite.
- Engaged in a team project to create a portal using Blazor framework to monitor device usage across networks like Verizon and AT&T, displaying activation, deactivation and usage reports.

RELEVANT PROJECTS

Hand Gesture-Based Cricket Game using OpenCV

September 2022 – December 2022

- Implemented real-time hand gesture recognition using key-point extraction from palm regions for interactive gameplay.
- Developed an AI-based opponent system to simulate a two-player cricket match with a Python-based GUI.
- Conducted user testing on 10 participants under varied lighting conditions and gesture styles, received average rating of 4.5/5.

Handwritten Equation Solver

August 2023 – December 2023

- Developed a Flask-based UI for a handwritten equation recognition system that interprets and solves expressions like '5+2'.
- Designed and implemented interconnected pipeline stages with specific configurations for every stage of ML lifecycle.
- Received a 4.6 rating out of 5 from 20 test users (ages 6-8), with requests to include more mathematical functions.

Forest Fire Prediction Using AutoML and Django

August 2024 – December 2024

- Carried out explanatory and exploratory data analysis as well as feature engineering to produce cleaned tabular dataset.
- Trained classification models using AutoML from Azure ML Studio with ten different algorithms and scaling techniques.
- Created a user interface using Django to evaluate the best performing model based on real-time input data.

ACHIEVEMENTS

- Completed the Microsoft Certified: Azure Data Scientist Associate (DP-100) credential in March 2025.
- Published paper on stock market analysis using ML, Python and Neo4j, visualizing and categorizing BSEIndia stocks based on market capital and volume of shares, as well as sentiment analysis of news captions (*CRC Press Taylor and Francis journal*).
- Published paper on skin cancer classification of DICOM images using a two-layered Multi-column CNN with 97.45% accuracy by simultaneous incorporation of images and metadata from tags. (*Neural Computing and Applications journal*).