

# SAI SIVA REDDY MADDULA

*Software developer/Machine Learning Engineer*

## PROFESSIONAL SUMMARY

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Dynamic **Software Developer** and **Machine Learning Specialist** with a strong academic background in **Computer Science** (3.83 CGPA). Proficient in **Python, TensorFlow, SQL, and React**, with expertise in building responsive web applications and developing machine learning models for classification, regression, and neural networks. Skilled in the **full SDLC**, data preprocessing, and deploying scalable ML systems. Adept at using tools like **Google Colab, Numpy**, and **Pandas** for data analysis and feature engineering. Experienced in **AI fairness** and bias mitigation strategies. Passionate about creating innovative solutions to solve complex problems and drive impactful results in software and machine learning projects

## COURSES

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### GOOGLE FOR DEVELOPERS

#### *Machine Learning Crash Course*

- ◆ Linear Regression: Loss, Parameters, Gradient Descent, HyperParameters & Programming
- ◆ Logistic Regression: Calculating a Probability, Loss, and regularization
- ◆ Classification: Thresholds and the Confusion matrix, Accuracy, Recall, Precision, and related metrics, ROC and AUC, Prediction bias, Multi-class classification, and programming.
- ◆ Numerical Data: The model ingests data with feature vectors, programming, normalization, binning, scratching, and qualities of good numerical features and polynomial transforms.
- ◆ Categorical Data: Vocabulary and One-hot encoding, common issues with categorical data, Feature crosses(Exercise).
- ◆ Datasets, generalization, and Overfitting: Data characteristics, Labels, Imbalances datasets, Dividing the original dataset, Transforming Data, Generalization, Overfitting, Model complexity, L2 regularization, Interpreting loss curves.
- ◆ Neural Networks: Nodes and hidden layers, Activation functions, Training using backpropagation, Interactive Exercise, and Multi-class classification.
- ◆ Embeddings: Embedding space and static embeddings and Obtain embeddings.
- ◆ Large Language Models: Fine-tuning, distillation, and prompt engineering.
- ◆ Production ML Systems: Static vs dynamic(training, inference), Transforming data, Deployment testing, and Monitoring pipelines.
- ◆ Automated Machine Learning: Benefits and Limitations.
- ◆ Fairness: bias(Types, Identifying, Mitigation, and Evaluation), Demographic parity, Equality of opportunity, Counterfactual fairness & fairness.
- ◆ Problem Framing: Understanding and Framing an ML problem, implementing a model.
- ◆ Managing ML Projects: Development phases, Assembling a team, Working with stakeholders, Feasibility, Planning, Measuring success, ML pipelines, and Productionization.

## INTERNSHIP

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### SOFTWARE DEVELOPER

#### *Datics*

Jan 2024 - Apr 2024

*Charlotte, Nc*

- ◆ Executed the full software development life cycle (SDLC).
- ◆ Developed flowcharts, layouts, and documentation to identify requirements and solutions.
- ◆ Wrote well-designed, testable code.
- ◆ Produced specifications and determined operational feasibility.
- ◆ We have integrated software components into a fully functional software system.
- ◆ Developed software verification plans and quality assurance procedures.
- ◆ Documented and maintained software functionality.
- ◆ Troubleshoot, debugged and upgraded existing systems.
- ◆ Deployed programs and evaluated user feedback.

## EDUCATION

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### MS IN COMPUTER SCIENCE

*Auburn University At Montgomery*

Aug 2022 - May 2024

*Montgomery*

- ♦ Graduated with a **CGPA of 3.83**.
- ♦ Developed and designed websites using **HTML, CSS, JavaScript, and React** focusing on responsive and user-friendly interfaces.
- ♦ Worked on neural network projects within **machine learning**, applying advanced algorithms to solve complex problems.
- ♦ Ran robust and efficient **C++, and Python (OOPS)** and Attended lab sessions to gain practical knowledge for emphasizing best practices and maintainability.
- ♦ Gained Knowledge in **data structures and algorithms** to efficiently organize and manage a large amount of data.
- ♦ Implemented machine learning code in **Google Co-lab**, enhancing data analysis and model training efficiency.
- ♦ Possess strong **SQL skills** for querying and managing databases.
- ♦ Completed projects on **3D Modeling Using the Blender Application**.
- ♦ Experienced with **NFA, DFA, and Regular Expressions**.
- ♦ Developed codes in Python code for **supervised Learning and Unsupervised Learning** Projects.

### BACHELOR OF TECHNOLOGY

*Vasireddy Venkatadri Institute of Technology*

Jun 2018 - May 2022

*Andhra Pradesh, India.*

- ♦ Graduated with a **CGPA of 3.41**
- ♦ **Project Work:** Developed a fire-flame sensor project capable of detecting UV and IR signals from flames. Components used included a UV-sensitive photocell, optical filter, lens, signal processing circuitry, and Python-based code integrated into an Arduino microcontroller.
- ♦ **Mathematical Skills:** Acquired proficiency in **derivatives, integrations, calculus, linear algebra, statistics, and discrete mathematics**.
- ♦ **Physics and Mechanics:** Worked extensively on **thermodynamics, electromagnetism, quantum mechanics, optics, and wave mechanics**, gaining practical knowledge through laboratory experiments.
- ♦ **Chemistry Fundamentals:** Studied **atomic structure, periodic table, chemical bonding, stoichiometry, chemical reactions, states of matter, gas laws, and molecular geometry**, complemented by hands-on experience in laboratory work.
- ♦ **Electrical Engineering:** Proficient in **electrical motor systems, control systems, circuit analysis, thermal and hydro machines, power systems, and laboratory applications**.
- ♦ **Digital Logic and Systems:** Gained expertise in **switching theory and logic design**, including Boolean algebra and abstract mathematical models used in designing digital networks.
- ♦ **Advanced Topics:** Familiar with **neural networks, fuzzy logic, and programming for microprocessors and microcontrollers**.
- ♦ **Programming Skills:** Acquired strong knowledge in **computer programming and C programming**, with applications in various engineering and technical projects.

## SKILLS

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Python, C++, HTML, CSS, JavaScript, Machine Learning, Numpy, React, Linear Algebra, 3D Modeling, Data Structures and Algorithms, Computer Networks, Pandas, DFA & NFA, Colab, Blender, SQL, and TensorFlow.

## LANGUAGES

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English (*Highly proficient*), Spanish (*Proficient*), Hindi (*Highly proficient*), and Telugu (*Native*).