# Pradeep Somasundaram

LinkedIn – Phone: +1(571)259-4793 – aadhi1501@gmail.com – Portfolio – GitHub

## PROFESSIONAL SUMMARY

Data Scientist specializing in Agentic AI systems, LLM orchestration, and production-grade machine learning pipelines. Experienced in designing LangChain and LangGraph-based agent workflows for data validation, reasoning, and automated insight generation. Strong background in Python, ML, and cloud-native architectures.

## EDUCATION

**The George Washington University, Washington, DC** *M.S. in Data Science* Aug 2023 – May 2025
Graduate research in machine learning, NLP, and risk modeling; strong academic performance in Machine Learning, Statistical Learning, and Natural Language Processing.

## PROFESSIONAL EXPERIENCE

**Beauty Manufacturing Solutions Corp (BMSC), Dallas, TX** *Data Engineer/ Scientist* Oct 2025 – Present

- Implemented Agentic AI workflows using LangChain and LangGraph to automate data validation, anomaly investigation, and root-cause reasoning across production systems, reducing manual analysis overhead.
- Built LLM-orchestrated pipelines integrating Python, SQL, and machine learning models to generate explainable, natural language insights, improving decision turnaround time and operational clarity.
- Developed and deployed forecasting and anomaly detection models using time-series and statistical techniques, improving operational accuracy by 28% and enabling earlier detection of process deviations. **Tech Stack:** Python, SQL, LangChain, LangGraph, LLMs, Scikit-Learn, Time-Series Models, SHAP, LIME, AWS, Sage X3 Data.

**Chicago Education Advocacy Cooperative, Chicago, IL (Remote)** *Data Science Fellow* Aug 2025 – Oct 2025

- Addressed workforce planning and resource allocation challenges by building ML-driven analytical pipelines that improved visibility into staffing and utilization patterns.
- Automated data ingestion, validation, and feature engineering workflows using Python and SQL, reducing manual processing and improving data reliability.
- Built interpretable models and evaluation frameworks to ensure transparency, reproducibility, and stakeholder trust in analytical outputs. **Tech Stack:** Python, SQL, Machine Learning, Data Validation, Model Evaluation.

**Shree Kay Vee Automation, Chennai, India** *Data Scientist* May 2023 – Jul 2023

- Analyzed IoT and industrial datasets to identify reliability issues and built predictive and anomaly detection models to support maintenance optimization.
- Performed feature engineering, statistical analysis, and model evaluation to uncover key drivers of equipment failure and performance degradation.
- Collaborated with engineering teams to productionize machine learning models and validate performance in operational environments. **Tech Stack:** Python, SQL, Machine Learning, IoT Analytics, Time-Series Modeling.

## PROJECTS

**Child Mind Institute – Problematic Internet Use Analysis** Jan 2025 – May 2025

- Analyzed large-scale behavioral and survey datasets and built machine learning and NLP pipelines to identify risk patterns associated with problematic internet use.
- Orchestrated agent-style analytical workflows that combined ML predictions, explainability signals (SHAP, LIME), and rule-based logic to generate structured, interpretable insights for clinical review.
- Implemented automated evaluation, validation, and reproducibility checks to ensure consistent model behavior and reliable outputs across data refresh cycles.

## TECHNICAL SKILLS

**Programming, Agentic AI & LLM Systems:** Python, SQL, R, Bash, Git, LangChain, LangGraph, LLM-Orchestrated Workflows, Prompt Engineering, Agent-Based Reasoning, Tool-Calling, Model Explainability
**Machine Learning & NLP:** Scikit-Learn, TensorFlow, Time-Series Models, LSTM, BERT, Transformers
**Cloud & MLOps:** AWS (S3, Lambda, IAM), Model Deployment, Monitoring, Reproducibility
**Enterprise AI Platforms:** IBM Watson (Exposure), Governed AI Systems, Compliance-Aware AI
**Statistics:** Hypothesis Testing, Causal Inference, Forecasting