SURYAKIRAN SURESHKUMAR

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Education

- **New York University** — New York, NY
  M.S - Computer Science; GPA: 3.85/4.00 — *September 2022 - May 2024*
- **Anna University** — Chennai, India
  B.E - Computer Science and Engineering; GPA: 3.64/4.00 — *August 2017 - April 2021*

Skills Summary

- **Programming Languages**: Python, C++, C, Java
- **Data Science & ML**: PySpark, Pandas, NumPy, Scikit-Learn, Matplotlib, PyTorch, Langchain, Hugging Face
- **Big Data Technologies**: PySpark, Hadoop, HDFS, YARN, MapReduce, Hive, Kafka
- **Databases**: MySQL, SQL Server, PostgreSQL, MongoDB, Snowflake, Oracle, DynamoDB, OpenSearch
- **Cloud & DevOps**: Azure, AWS, Oracle, GCP, Git, GitHub, GitLab, Azure DevOps, Terraform, Docker
- **Full-Stack Development**: HTML, CSS, JavaScript, Django, FastAPI
- **Tools & Platforms**: Postman, DataBricks, Power Apps, Tableau, Flutter, Streamlit, MLFlow

Experience

- Data Engineer Intern | **Promantus Inc.** — June 2023 - August 2023
  - **P&ID detection:** Pioneered the implementation and fine-tuning of the few-shots object detection model, resulting in a 10% improvement in detection & classification accuracy compared to the previously implemented solution.
  - **Automated Cash Application:** Defined parsers in Java for the cash application, enabling seamless integration with multiple bank statement formats resulting in a 50% reduction in manual effort and a 95% increase in data accuracy.
- Machine Learning Engineer | **Tiger Analytics** — February 2021 - July 2022
  - **No-Code data science platform:** As the founding engineer, the role involved spearheading the team, architecting 30+ predefined functions for data science tasks using Azure Databricks and PySpark, creating a backend API using FastAPI for execution, and establishing a CI/CD pipeline that improved deployment speed by 20%. Collaboration and communication with cross-functional teams ensured the successful rollout and integration of the platform.
  - **Automated Shelf Analysis:** Led the creation of a mobile app for inventory video analysis, slashing manual labor by 60%, and developed an AWS ETL pipeline to analyze product sales trends, driving data-informed decisions.
- Research Assistant | **Anna University** — July 2019 - January 2021
  - **Deep Learning Framework for Component Identification [paper]:** Contributed to a groundbreaking research project which involved designing a system to monitor a manufacturing assembly line, accurately detecting, classifying, and counting components in real-time imagery, significantly improving operational efficiency.
  - **Scene Understanding in Night-Time Using SSAN Dataset [paper]:** Co-authored research (NCVPRIPG 2019, Springer 2020) on an innovative CCTV-based night surveillance system, improving object detection under low-light conditions using YOLOv3 model.
- Academic Intern | **National University of Singapore** — June 2019
  - Gained knowledge and experience in Big Data Analytics using Artificial Neural Networks.
  - Pioneered the development of an award-winning Django-based application that leverages neural networks to detect phishing sites, securing the top spot among 40 innovative projects.
- Summer Intern | **Hewlett Packard Enterprise** — June 2019
  - Acquired deeper understanding on Big data and Hadoop System Administration.
  - Implemented AES encryption on a file containing passwords by leveraging a MapReduce job within the Hadoop ecosystem.

Projects

- **DriveVLM**: Expertly fine-tuned(using Low-Rank Adaptation) the QwenVL Vision-Language Model within a Carla Simulator environment for autonomous driving applications, achieving superior performance compared to traditional methods while utilizing only 40% of the data.
- **ChatLoom**: Implemented a specialized chatbot using OpenAI's advanced large language model for detailed cosmology and astrophysics responses. Integrated with LangChain, it's accessible via a web application developed using Chainlit, enriching user interactions with accurate cosmic knowledge.
- **Phishing Site Detection**: Developed a web application (using Django), complemented by a Chrome extension, that utilizes a neural network to detect phishing sites after rigorous data cleaning, achieving an accuracy of 98.73%. The system notifies users about the safety of sites and forwards analysis to the cyber department.

Extra Curriculars

- **Teaching Assistant (NYU)**: Led lectures for Linear Algebra, Computer Vision, Vision meets Machine Learning and Probability, Statistics & Decision Making courses.