Sadakopa Ramakrishnan

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Morgan Stanley   September 11, 2024
India
Mumbai/Bengaluru

Dear Hiring Manager,

I am writing to express my interest in the Summer Technology Internship Program at Morgan Stanley. The opportunity to learn from senior executives and work on live projects that integrate technical skills with business concepts excites me, as it aligns perfectly with my passion for technology-driven problem-solving and innovation. The chance to contribute to the cutting-edge technological advancements at Morgan Stanley would be a significant milestone in my career development.

As a B.Tech student in Information Technology at SSN College of Engineering, coupled with my Diploma in Programming and Data Science from IIT Madras, I have developed a strong foundation in software development, data structures, and algorithms. My experience in working with real-world datasets has been honed through projects like building a dual-stage predictive machine learning model to forecast flight delays. This project has allowed me to work closely with large datasets, sharpen my programming skills, and deliver impactful results by solving complex challenges.

I am proficient in programming languages such as Java, and Python, with a solid understanding of object-oriented programming (OOP) principles. My ability to adapt and learn quickly, combined with my enthusiasm for innovation, would allow me to thrive in the dynamic environment of Morgan Stanley's Technology Division. I am also excited about the chance to engage in professional skills workshops and collaborate with teams to solve business challenges through technology.

I am confident that my technical expertise, coupled with my strong problem-solving abilities and passion for teamwork, will enable me to contribute effectively to Morgan Stanley's projects. I look forward to the opportunity to further discuss how I can contribute to your team and enhance my own skills through this internship.

Sincerely,

Sadakopa Ramakrishnan

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Education

- **Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam** — Chennai, India
  Bachelor of Technology - Information Technology; GPA: 8.853 — *Oct 2022 - Present*
  Ranked 8th among 160+ students in the department

- **Indian Institute Of Technology, Madras** — Chennai, India
  Diploma in Programming and Data Science; GPA: 8.58 — *Jan 2023 - Present*

Skills Summary

- **Languages:** : Python, Java, SQL
- **Databases:** : Firebase, MySQL, Oracle SQL* Plus
- **ML Frameworks**: Scikit, PyTorch, Pandas, Numpy, Matplotlib, Seaborn

Experience

- **Bright Academy** — On-Site
  Undergraduate Research Assistant — *April 2024 - Present*
  - **Machine Learning Research and Application**: Developed and trained datasets using a variety of **machine learning models**, encompassing both regression and classification algorithms. Performed comprehensive analyses to assess model performance through diverse **evaluation metrics**.
  - **Project Documentation and Reporting**: Composed in-depth project reports that meticulously described methodologies, **data preprocessing** procedures, model selection processes, and evaluation outcomes. Emphasized clarity and detail to ensure the research was easily understandable and reproducible..
  - **Peer Review and Mentorship**: Reviewed and offered constructive feedback on assignments and project reports submitted by peers. Helped clarify complex concepts and guided classmates toward better analytical methods.

- **IEEE Computer Society** — On-Site
  Event Manager — *March 2024 - Present*
  - **Event Management** : Successfully planned, organized, and executed various events, including workshops, seminars, and coding competitions. Coordinated with speakers, managed logistics, and oversaw event promotion to ensure high attendance and engagement.
  - **Coordination Experience**: Collaborated with team members to develop event schedules, prepare materials, and ensure smooth operations. Demonstrated strong organizational and leadership skills, contributing to the club's vibrant community and professional development opportunities for members.

Projects

- **AI-Powered Test Case Generator for Image-based Functionalities (Streamlit App)**: — *Sept 2024*
  * Built a Streamlit application that generates manual test cases for image-based functionalities using Google's Gemini API.
  * Implemented a system for users to upload images and provide optional context to generate highly detailed test cases.
  * Integrated multimodal AI to process both image and text inputs, providing comprehensive testing steps, preconditions, and expected results.
  * Enabled support for multiple image uploads, enhancing the testing process for a variety of use cases.

  Tech Stack: Python, Streamlit, Google Gemini API, PIL

- **GradFlow: Implementing Automatic Differentiation**: — *July 2024*
  * **Implemented a Differentiation Engine:** Developed a minimalist deep learning library from scratch, handling **5 basic operations** and gradient calculations using automatic differentiation.
  * **Simulated Forward and Backward Passes:** Executed **1000+ forward and backward passes** using pure Python, avoiding external libraries like NumPy to emphasize conceptual understanding and educational value.

- **A Two-stage Flight Delay Predictor (Machine Learning)**: — *May 2024*
  * Developed a dual-stage machine learning model to forecast flight delays at 15 major U.S. airports using 2016-2017 flight and weather data.
  * Implemented a binary classifier for delay detection and a regression model for delay duration estimation.
  * Achieved 92% accuracy in classification and 94% accuracy in regression.

  Tech Stack: Python, scikit, numpy, pandas, matplotlib, seaborn

Achievements

Adobe Gensolve Hackathon 2024 - Placed among the top 5% of participants — *July 2024*

- Developed a tool to transform hand-drawn line art into smooth cubic Bezier curves by implementing curve regularization, symmetry detection, and completion algorithms.

SIH'23 - Internal Hackathon Winner — *Sep 2023*

- Selected among the 40 teams to present our idea under the problem statement - SIH1326 in the Smart India Hackathon 2023 portal