RISHABH SRIVASTAVA

+1 (929) 358-5907 | rs4489@columbia.edu | linkedin.com/in/rishabhsrivastava6 | github.com/RishabhS66

Education

Columbia University — New York, NY
MS in Computer Science, GPA: 3.99/4.00 — Expected Dec 2024
Relevant Courses: Databases, Analysis of Algorithms, High-Performance ML, Computer Vision, NLP
TA for: Topics in Software Engineering, Advanced Software Engineering
Recipient of Data Science Institute Scholarship (Fall 2024)

Indian Institute of Technology Guwahati — Assam, IN
BTech in Electronics and Electrical Engineering, Minor in Computer Science — Jul 2021
Relevant Courses: Software Engineering, Computer Systems, Probability, Data Structures and Algorithms
Recipient of Samsung Fellowship Award

Technical Skills

Languages: Python, C++, Java, MySQL, MongoDB, React, NodeJS, TypeScript
Technologies/Frameworks: GCP, AWS, Kubernetes, Docker, Jenkins, GitHub, PyTorch, Scikit-learn, TensorFlow

Work Experience

Rubicon Robotics Inc. — New York, NY
Software Engineer Intern — May 2024 – *Present*
- Developed and implemented CV algorithms for swimmer detection by SwimBot, achieving a **90%** accuracy rate. Employed OpenPose model for comprehensive posture analysis.
- Created Django backend interfacing with AWS RDS, deployed site using AWS EC2 behind Application Load Balancers and Route53 for custom domain assignment.
- Established CI/CD pipeline using GitHub Actions, ensuring automatic deployment of changes after successful test passes, boosting development efficiency and site reliability.

Adobe Inc. - Adobe Experience Manager (AEM) Assets — Noida, IN
Software Development Engineer Level II — Jul 2021 – Aug 2023
- Solved **30+** localization, accessibility and vulnerability issues, fortifying the platform's resilience and reliability.
- Volunteered as the DevOps Champion, managed and maintained the CI/CD pipeline deployed on Jenkins to enable seamless integration and delivery of code changes.
- Spearheaded enhancement of AEM Assets Search by utilizing Lucene indexing for efficient information retrieval, Hugging Face's BLIP (Bootstrapping Language-Image Pre-training) APIs for asset auto-captioning and GPT-4 for query pre-processing.
- Led end-to-end implementation of Smart Tags Block-list in AEM Assets Essentials, empowering users to manage and block inappropriate smart tags for assets, ensuring content appropriateness and brand compliance.
- GenAI Hackathon - integrated Adobe Firefly to enhance search experience for AEM Assets Essentials, allowing customers to generate custom images if search results are irrelevant; selected to be presented at Adobe EMEA Summit 2023.

Adobe Inc. — Noida, IN
Media and Data Science Research Intern — Apr 2020 – Jul 2020
- Implemented Reinforcement Learning-based algorithms to extract top relevant patterns from temporal, sequential data.
- Trained Deep Q-Network using TF-Agents and extracted patterns ranked by user-specified measure of interest.
- Proposed algorithm allowed monitoring and improving user-targeting based on certain Key Performance Indicators.

Hanyang University — Ansan, KR
Research Intern — May 2019 – Jul 2019
- Designed a new algorithm Adaptive Shadowed C-Means (ASCM), to cluster data using fuzzy and shadowed sets.
- Reduced impact of noise in clustering by keeping outliers concentrated in shadow region.
- Implemented algorithm in MATLAB on Iris data set and Breast Cancer Wisconsin data set, and demonstrated its use for image segmentation.

Projects

Inference Acceleration of Stable Diffusion | *PyTorch Lightning, Transformers, Wandb* | Apr 2024 - May 2024

GitHub: RishabhS66/Inference-Acceleration-of-Stable-Diffusion

- Devised Time-step calibrated quantization for Stable Diffusion, achieving the lowest FID score and highest CLIP score compared to other quantization techniques.
- Conducted L1-unstructured pruning and combined quantization, compressing the model by **20%** and reducing inference time by **5%** without significant performance loss.

Clustering Emission Intensities Dataset for Better Data Imputation | *Python* | Jan 2024 - Apr 2024

- Implemented clustering techniques on European Central Bank's (ECB) Company Emission Intensities data to facilitate enhanced imputation methods, enabling more accurate predictions in subsequent analyses.
- Successfully employed **TF-IDF** for extracting features from text data, and **PCA** for dimensionality reduction, enhancing computational efficiency and interpretability of the dataset.
- Utilized **DBSCAN** to uncover clusters of varying shapes and sizes, providing valuable insights into underlying structures and relationships within the dataset, crucial for further analysis and prediction tasks.

Expense Management Software | *Java, PostgreSQL, React, Redux, Cypress* | Sep 2021

GitHub: RishabhS66/Expense-Management-Software-React-App

- Engineered full-stack web application for automating business expense management, featuring user authentication, role-based access, and expense claim approval workflows.
- Implemented JWT authentication, protected routing, and a dynamic dashboard for managing employees, clients, projects, and expenses, enhancing organizational efficiency.

Codeforces Problem Recommender | *HTML, CSS, JavaScript* | Aug 2020

GitHub: RishabhS66/Codeforces-Problem-Recommender

- Built a website for Codeforces users to suggest unsolved problems based on their rating, categorized into Easy, Medium, and Hard levels.
- Utilized mathematical analysis and curve fitting to define problem rating ranges, improving problem selection accuracy.