

RISHABH SRIVASTAVA

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Education

Columbia University

MS in Computer Science, GPA: 3.99/4.00

New York, NY

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

BTech in Electronics and Electrical Engineering, Minor in Computer Science

Assam, IN

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.

Software Engineer Intern

New York, NY

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

Software Development Engineer Level II

Noida, IN

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.

Adobe Inc.

Media and Data Science Research Intern

Noida, IN

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

Research Intern

Ansan, KR

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

FOMC Statement Hawkish-Dovish Analysis Using LLMs | *Transformers, BeautifulSoup* | Jun 2024 - Aug 2024
Supervisor: Prof Ali Hirs, and associated with Morgan Stanley

- Used CentralBankRoBERTa to predict market dovishness/hawkishness from FOMC statements and meeting minutes from Jan 2019 to July 2024.
- Web scraped, cleaned, and extended the dataset, then prompt-engineered GPT-4 to classify text into pre-defined categorical labels, benchmarking results against the CentralBankRoBERTa model and MacroMicro AI Hawkish-Dovish index.
- Stress tested models by modifying prompts, data size, and order of inputs, and analyzed label consistency across models using Kendall's W.

Inference Acceleration of Stable Diffusion | *PyTorch Lightning, Transformers, Wandb* | Apr 2024 - May 2024
GitHub: [RishabhS66/Inference-Acceleration-of-Stable-Diffusion](https://github.com/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.

Expense Management Software | *Java, PostgreSQL, React, Redux, Cypress* | Sep 2021
GitHub: [RishabhS66/Expense-Management-Software-React-App](https://github.com/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](https://github.com/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.