

KAUSHAL KUMAR RAI

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EDUCATION

- **University of Wisconsin - Madison** Madison, WI
Masters of Science in Computer Science: GPA 4.00/4.00 Sept. 2021 – Dec. 2022
- **Netaji Subhas Institute of Technology, University of Delhi** New Delhi, IN
Bachelor of Engineering in Computer Engineering; GPA: 9.04/10 (Merit Scholarship) Aug. 2015 – May. 2019

TECHNICAL SKILLS

- **Languages:** C++, Java, Hack, JavaScript, Python, Go, Kotlin, HTML, CSS, SQL
- **Tools and Technology:** AWS, Hadoop, Thrift, Map-Reduce, Kubernetes, Docker, Spark, TensorFlow, PyTorch

EXPERIENCE

- **Rubrik Inc., Software Engineer** Palo Alto, CA
Metadata Infrastructure, Polaris Platform Jan 2023 - Present
 - My responsibilities includes correctly and efficiently syncing data between Cloud Data Management(CDM) and Rubrik Security Cloud(RSC). This enables customers to govern data across multiple clusters from a single platform.
- **Meta, SWE Intern** Menlo Park, CA
Stream Processing Team (Puma, Stylus), Data Infrastructure May 2022 - Aug 2022
 - Developed a framework to identify and visualize the stylus operators used by different stream processing pipelines.
 - Developed a transform operator that handled filtering, mapping and flatmap functionality. The operator also gave the ability to fuse different operators together thereby drastically reduced the run-time for various pipelines.
- **Goldman Sachs, Analyst** Bangalore, IN
GSAM Surveillance Engineering Team, Compliance Division Apr 2020 - Aug 2021
 - Enhanced the precision of surveillance codebases (approximately 30%) by improving the underlying mathematical model being used. This significantly reduced the manual work required at Compliance Officer's end.
 - Improved the coverage of surveillances by including foreign exchange products in scope for Fixed Income trades.
 - Developed a codebase to add surveillance logic to a new order management system (OMS). Ensured code compatibility across surveillances and data sourcing tasks to handle new OMS.
- **Samsung R&D, Software Engineer** Bangalore, IN
Rich Communication Suite and Messaging as a Platform Team Jun 2019 - Apr 2020
 - Enhanced chatbots by including the ability to share audio and video messages. This feature allowed 3rd party businesses to on-board native messaging application of Samsung handsets and share enriched content.

RESEARCH PROJECTS

- **SCALE: Supervised Contrastive approach for Active Learning:** SupCL, MLM, NLP Jan 2022 - May 2022
 - Introduced supervised contrastive loss to generate discriminative embeddings for text classification. [Github Link](#)
 - The proposed loss function lead to an improvement of 10% on the Trec-6 dataset and up to 4% on SST-2 dataset on 15% acquired data, thereby beating the current state-of-the-art method. [Paper Link](#)
- **Detecting Hate Inducing Memes in Code Switched Language:** CNN, LSTM Dec 2020 - Aug 2021
 - Introduced a novel triply annotated Indian political Memes (IPM) dataset, which comprises memes from various Indian political events that have taken place post-independence. [Github Link](#)
 - Proposed and implemented a binary-channeled CNN and LSTM based model that gives state-of-the-art results in the domain of offensive image (Memes) classification in code-switched languages. [Paper Link](#)
- **Automated Code Analysis and Grading:** Python, LLVM, NLP Sep 2018 - May 2019
 - Developed an open source codebase that grades quality and logic of C/C++ codes using feature extraction on a combination of control flow graph and data flow graph. [Publication Link](#)
 - Evaluated the performance of different ML models (including SVM, Linear Regression, Ridge Regression and Ordinal Regression) on our novel dataset consisting of multiple coding responses to obtain optimal results. [Github Link](#)

COURSE PROJECTS

- **Context Associated Object Removal from Images:** Python, DeepFillv2, SuperPixel, CV Jan 2022 - May 2022
 - Developed a framework to generate coherent outputs by removing the context (shadow) associated with the object.
 - Conducted in-depth analysis to conclude that LISA coupled with DeepFillv2 shows the best result. [Paper Link](#)
- **Developing GAN for Image-to-Image translation:** Tensorflow, Keras, cGANs, CV Sep 2021 - Dec 2021
 - Implemented a cGAN architecture trained through an adversarial process for Image-to-Image translation. [Github Link](#)
 - Experimented between Neural Style Transfer Architecture and multiple GANs to conclude that PatchGAN + cGAN with MAE loss gives the best result for Image to Image translation. [Paper Link](#)