

# Kshitij Pathania

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IIT-JEE Rank - **3519 out of 2 million candidates**

## EDUCATION

Degree	Institute	GPA
Masters in Computer Science	Georgia Institute of Technology (Gatech)	4.0
BS+MS in Applied Mathematics	Indian Institute of Technology (IIT Roorkee)	8.3

## SKILLS

- Programming Languages:** C, C++, Python, Scala, Java, Golang, JavaScript, TypeScript, SQL (MySQL, PostgreSQL).
- Frameworks and Tools:** PyTorch, TensorFlow, Docker, Kubernetes, Spark, ReactJS, Flask, NodeJS, Springboot, CUDA.
- Developer Tools:** CI/CD, Git, Jenkins, Azure, AWS, RESTful APIs, Google Cloud Platform, Splunk, Grafana.
- Relevant Coursework:** Deep Learning, Advanced Computer Vision, Data Structures, Algorithms, Systems for Machine Learning, Advanced Operating Systems, Database Management Systems, Networking, Statistical Inference, Scientific Machine Learning, Data Visualization and Analytics, Quantum Computing, Combinatorial Mathematics.

## EXPERIENCE

- Member of Technical Staff-2 | Adobe** 01/2022 – 07/2023
  - Developed workflow orchestration system for Adobe Localization Team, managing complex state transitions and processes to streamline global annual content releases for **12+** Adobe products.
  - Engineered automated deployment pipelines ensuring seamless and reliable service deployment across Kubernetes clusters.
  - Developed system for Multimodal Incongruence Detection (MID) Model, integrating model serving pipeline to handle multiple models across various modalities, reducing latency by **70%** (40 ms) and boosting QPS to **3 times** the prior rate.
- Member of Technical Staff | Adobe** 07/2020 – 12/2021
  - Designed and developed a content management system (CMS), onboarding localization workflows for **50+** projects.
  - Re-architected backend with microservices architecture and design patterns, handling upto **1.5k** requests per week.
  - Implemented transformer-based NLP solution to automatically resolve line break issues in Thai language.
- Research Intern | Adobe** 05/2019 – 07/2019
  - Constructed a data-driven attribution model for B2B market transactions using Attention-based RNNs.
  - Explored LSTM, causal inference, survival theory, and deep learning literature to design the model's architecture.

## PROJECTS

- Google Summer of Code | Accord Project: Docusign** GitHub: [accord/vscode-extension](#)
  - Architected and **released** Co-Pilot extension, an AI assistant for automating **Concerto** model creation within VSCode.
  - Built a robust RAG pipeline and a scalable backend service to automate Smart legal contracts template development.
  - Documented the complete extension development and release notes, accessible at [Model Creation AI](#).
- Enhancing Diffusion Models with Attention based Inpainting | Gatech** GitHub: [kshitij79/diffusion](#)
  - Advanced text-to-image synthesis using stable diffusion with selective attention (Grad-SAM) for inpainting.
  - Achieved significant improvements in image fidelity and textual context alignment, as demonstrated by an improved FID score of **6.89** and a **27.98** in CLIP score.
- BERT-based Question Answering System | Gatech** GitHub: [kshitij79/ML-7641](#)
  - Integrated BERT into QA frameworks, fine-tuned it on SQuAD for improved accuracy and contextual understanding.
  - Achieved **F1 score of 0.7009**, surpassing baseline models.
- Google Summer of Code | LibreOffice** Gerrit: [libreoffice/kshitijpathania](#)
  - Focused on resolving widget functionality, theming, resizing and more UI issues in the notebook bar for LibreOffice.

## PUBLICATIONS

- Pathania, Kshitij. (2024). **Enhancing Conditional Image Generation with Explainable Latent Space Manipulation**. arXiv:2408.16232. <https://doi.org/10.48550/arXiv.2408.16232>.
- Kumar, Puneet., Pathania, Kshitij. & Raman, Balasubramanian. (2022). **Zero-shot learning based cross-lingual sentiment analysis for Sanskrit text with insufficient labeled data**. *Applied Intelligence*, 53, 10096–10113. <https://doi.org/10.1007/s10489-022-04046-6>.

## POSITIONS OF RESPONSIBILITY

- Graduate Teaching Assistant:** Machine Learning for Trading CS 7646, Georgia Tech (2023-2024)
- Associate Coordinator:** Training and Placement Office, IIT Roorkee (2018), driving partnerships and organizing events.
- Coordinator:** Ravindra Bhawan Sports Meet, IIT Roorkee (2019), managing fixtures and serving as treasurer.
- Member of NSO:** National Sports Organisation, IIT Roorkee (2016), contributing as a member of the cricket team.