

Dushyant Trivedi

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Education

Indian Institute of Technology, Kharagpur

June 2018 - Apr 2023

- **Major:** B.Tech. + M.Tech. (Dual Degree) in Industrial and Systems Engineering
- **Minor:** Computer Science and Engineering
- **Micro-Specialization:** Artificial Intelligence and Applications

CGPA: 9.00/10

Experience

Software Engineer - Machine Learning, Microsoft PowerPoint Copilot

Mar 2024 - Present

- Built and deployed **LLM-powered workflows** for features like text formatting, presentation translation, presentation creation.
- Architected a robust, multi-stage LLM system for handling text formatting requests in PowerPoint Copilot, with modular stages for intent understanding, formatting extraction, and command generation, enabling accurate and context-aware edits at scale.
- **Fine-tuned GPT-4.1** on Azure for formatting command generation; integrated with prompt-based modules to optimize efficiency.
- Enhanced **PPT Edit Agent's** formatting expert by refining prompts and building LLM-judge evaluations to improve accuracy.
- Added large file support via **Azure Blob Storage**, improving translation workflow reliability and raising user success rate by **10%**.
- Integrated LLM-driven capabilities into large-scale **C++**, **C#**, and **React** codebases; Designed **telemetry infrastructure** and interactive **Kusto dashboards** to monitor usage trends, surface model failures, and accelerate iterative product improvements.
- Delivered AI-powered presentation creation and translation features with **700K+** and **125K+** monthly usage across PowerPoint.

Software Engineer, Microsoft Stream Playlists

July 2023 - Feb 2024

- Spearheaded the Add to Playlist plugin for the Microsoft Stream video player with **React**, enabling seamless playlist curation.
- Built robust unit and end-to-end test suites (**Jest**, **Playwright**), instrumented detailed telemetry, and implemented resilient error handling for the Add to Playlist plugin, driving a measurable **15% increase** in monthly active users for Stream Playlists.
- Improved **accessibility compliance** by resolving WCAG issues and fixing key UI bugs to enhance usability and visual polish.

Data Scientist Intern, Murf AI

Oct 2022 - Feb 2023

- **Pretrained** Mixed-Phoneme BERT encoder architecture in **PyTorch**, focusing on representation learning for text-to-speech task.
- Preprocessed a pre-training dataset (83M sentences) from large unlabeled corpora, applied masking and **BPE-based** tokenization.
- Leveraged **model and data parallelism** to optimize training on multi-GPU infrastructure, enabling efficient large-scale training.
- Validated architecture changes through **BERT pre-training** on 1M sentences; delivered scalable, reproducible PyTorch pipelines.

Software Engineer Intern, Microsoft

May 2022 - June 2022

- Built **ASP .NET**-based support for SharePoint link-type items in Viva Learning, enabling redirection to external learning content.
- Optimized ingestion logic by fetching minimal metadata from **Graph API**, reducing memory usage and improving performance.
- Built admin diagnostics to show ingestion failures with error details, reducing support load and enabling customer **self-triage**.

Projects

Inferential Diagnosis of Depression from Social Media | Prof. Adway Mitra

Sept 2022 - Apr 2023

- Proposed ML framework to infer depression risk via social media text and user metadata, enabling early mental health screening.
- **Fine-tuned RoBERTa** language model to classify social media posts into interpretable latent variables (e.g., anxiety, insomnia).
- Modeled probabilistic causal relationships between psycho-social features and depression diagnosis using a **Bayesian network**.
- Engineered a multi-source pipeline combining 18K+ Reddit posts and 900 clinically annotated records; applied **SHAP/LIME** for interpretability and used **probabilistic reasoning** to infer depression risk from unstructured text without labeled ground truth.

Skills & Expertise

Languages and Software: C++ | C# | C | Python | JavaScript | TypeScript | SQL | Azure Kusto | MATLAB | CPLEX

Libraries and Frameworks: Pytorch | React | ASP .NET | Transformers | Django | Flask | Scikit-learn | Azure Blob Storage

Coursework: Probability and Statistics | Linear Algebra | Algorithms | Machine Learning | Deep Learning | Artificial Intelligence | Natural Language Processing | Graphical & Generative Models | AI and Ethics | Information Systems | Statistical Foundation for AI

Awards & Achievements

- Rated Expert on **CodeForces (Max. 1651)** and 4-star on **CodeChef (Max. 1912)**; ranked 322 in CodeForces Round 725.
- Member of Silver Winning team in Open IIT **Data Analytics** competition organized by Technology Students' Gymkhana (TSG).

Extracurricular Activities

- Volunteered with Microsoft Give team to organize annual fundraisers, supporting partner NGOs through employee contributions.