

FENIL DENISH BARDOLIYA

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Education

Master of Science in Computer Science

Aug 2023 – May 2025

Arizona State University, Tempe, AZ, USA

Coursework: Digital Video Processing, Natural Language Processing, Planning and Learning Methods in AI, Biocomputing, Information Assurance and Security, Image Analytics & Informatics, Data Mining, Statistical Machine Learning, Frontier Topics in GenAI

Bachelor of Engineering in Computer Science

Aug 2019 – Jul 2023

Birla Institute of Technology and Science Pilani

Coursework: Probability and Statistics, Object Oriented Programming, Database Systems, Data Structures and Algorithms, Operating Systems, Design and Analysis of Algorithms, Network Programming, Software Development for Portable Devices, Reinforcement Learning, Machine Learning, Image Processing, Computer Vision

Publications

1. Naman Ahuja, **Fenil Bardoliya**, Chitta Baral, Vivek Gupta. *Map&Make: Schema Guided Text to Table Generation*. (ACL 2025)
2. Aayush Atul Verma, Amir Saeidi, Shamanthak Hegde, Ajay Theral, **Fenil Denish Bardoliya**, Nagaraju Machavarapu, Shri Ajay Kumar Ravindhiran, Srija Malyala, Agneet Chatterjee, Yezhou Yang, Chitta Baral *Evaluating Multimodal Large Language Models across Distribution Shifts and Augmentations* (CVPR Workshops 2024)

Experience

Complex Data Reasoning & Analysis Lab (CoRAL)

Aug 2024 – Present

NLP Researcher

Tempe, AZ, USA

- Engineered a novel agentic framework for high-fidelity text-to-table conversion, featuring a dynamic schema generation strategy to maximize data coverage.
- Conducted rigorous experimental evaluations on multiple SOTA LLMs (Gemini 2.0, GPT-4o, Llama 3.3 70B) and diverse evaluation metrics (5+).
- Implemented distributed LoRA fine-tuning and DPO using A100, H100, and H200 GPUs with GSM8K, MATH, and Rotowire dataset on Llama-3.1-8B, Mistral-7B, Qwen2.5-7B models to evaluate on structure and reasoning tasks.
- Established a new benchmark for assessing the robustness and out-of-distribution behavior of MLLMs.
- Project Mentor for 6 teams on 4 different projects for course CSE576: NLP

Samsung Semiconductor India Research

Jan 2023 – Jul 2023

Assistant Engineer

Bengaluru, India

- Built scripts to automate network module data capturing and static analysis. Proposed development of anomaly detection for first-level call logs.
- Developed a hybrid LSTM encoder-decoder architecture for anomaly detection of SIP and IMS failures over VoLTE networks.
- Attained nearly 80% accuracy in detecting 25 known and some unknown errors.

Computer Science & Information Systems (CSIS), BITS Pilani

Sept 2022 – Dec 2022

Teaching Assistant

Hyderabad, India

- Conducted 10 labs on Android Programming and App development.
- Designed 4 quizzes to assess more than 50 students. Restructured the course to Android Development in Kotlin.
- Reviewed over 10 project ideas and mentored over 50 students for group projects.

Blyndr

May 2021 – August 2021

Android App Developer

Remote

- Managed two teams to work on the UI design and database creation. Developed a blind dating app for the LGBTQIA+ community at a startup. Adopted MVVM architecture pattern, Firebase Realtime database, and Firebase Cloud Messaging.
- Published the Blyndr app on Google Play with 500+ downloads and users across 10 countries.

Projects

Exploring Unlearning in State Space Models

Aug 2024 – Dec 2024

- Compared performance of Machine Unlearning techniques in State Space Models and Transformer-based models for privacy.
- Implemented Gradient Ascent (GA) and (GA + Mismatch) algorithms for unlearning for OPT-1.3B, Pythia-1.4B (Transformers), and Mamba-1.4B (SSM).
- Evaluated model performance using metrics: Perplexity, BLEU, ROUGE-L, and BLEURT across multiple datasets.
- Delivered insights highlighting SSMs' resilience to catastrophic forgetting and slower adaptability to unlearning techniques compared to Transformer-based models.

Skills

Programming Languages: Python, Kotlin, Java, C++, C, SQL, JavaScript, HTML, CSS, XML

Databases/Cloud: Firebase Firestone, Firebase Realtime Database, MySQL, MongoDB, MariaDB, AWS(EC2, S3, SageMaker, Bedrock), GCP, Azure(Azure ML, Data Lake), Kubernetes, TensorBoard, W&B

Libraries/Technologies/Frameworks/Tools: Scikit-learn, TensorFlow, Keras, PyTorch, HuggingFace, OpenCV, Albumentations, Pillow, Matplotlib, Numpy, Pandas, NLTK, Spacy, Networkx, REST API, Git, JUnit, Docker, Wireshark, AutoML

Concepts: Deep Learning, Machine Learning, LLMs, Computer Vision, Generative AI, Image Processing, Software Development, Android App Development, RAG, Prompt Engineering, LLM Agents, Diffusion/Flow models, RL Algorithms