

## WORK EXPERIENCE

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- Machine Learning Scientist** Dec 2023 - Present
  - Applied Research Intern Jan 2023 - Dec 2023
  - Georgian Partners* Edmonton, Canada
    - Led 15+ applied AI projects for 10+ portfolio companies, solving problems on entity extraction, question answering, summarization & classification using LLM techniques like RAG (vector & hybrid search, reranking), prompting, & fine-tuning with models including OpenAI, Mistral & Llama
    - Supported 10+ projects across 8+ companies using LLMs, computer vision, graph ML, & traditional ML.
    - GenAI Bootcamps (Organizer): Led 3 iterations involving 80+ companies, 450+ participants, 50+ projects (10+ in-production). Developed technical content & led sessions on RAG, Alignment (RLHF), & prompt engineering.
    - Multimodal Toolkit (500+ stars): Owner & primary contributor. Resolved 35+ issues, added new features & tests
- Graduate Research Fellow** May 2021 - Dec 2022
  - University of Alberta* Edmonton, Canada
    - Research on AI for video games (computer vision, reinforcement learning) and debiasing language models (NLP).
- Machine Learning Engineer** Aug 2019 - Nov 2020
  - Mad Street Den (Vue.ai)* Chennai, India
    - Developed & deployed solutions for 10+ classification & entity extraction problems using BERT & XLNet.
    - Created a machine learning model to extract keywords from 37+ million retail products.
    - Boosted precision of a rule-based classification system by 15% using ML & reduced codebase latency by 40%.
    - Implemented Word2Vec across a dataset of 2+ million retail product descriptions.

## SKILLS

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- Languages & Databases:** Python, Relational Databases (MySQL, SQLite), Document Databases (MongoDB), Key-Value Databases (Redis), Vector Databases (LanceDB, QDrant, Chroma), Markdown
- Machine Learning:** PyTorch, LangChain, LlamaIndex, Transformers, Tensorflow, Keras, NumPy, Pandas, scikit-learn
- Tools & Technologies:** Git, Docker, AWS (Sagemaker, EC2, S3, Redis) GCP (VertexAI, Compute Engine), LaTeX

## EDUCATION

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- University of Alberta** Jan. 2021 – Dec. 2022
  - Master of Science (Thesis) in Computing Science; CGPA: 3.75/4.0* Edmonton, Canada
    - Thesis:** Visualizing Characters and Evaluating their Balance in Competitive Video Games.
- Anna University (Sri Venkateswara College of Engineering)** Jun. 2015 – Apr. 2019
  - Bachelor of Engineering in Computer Science and Engineering; First Class.* Chennai, India
    - Thesis:** Natural Language Generation using Generative Adversarial Networks (Awarded grant of INR 10,000)

## PUBLICATIONS

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- A Framework for Predicting the Impact of Game Balance Changes through Meta Discovery:** First author. IEEE Transactions on Games.
- FineDeb: A Debiasing Framework for Language Models:** Co-first author. AI4SG Workshop, AAAI 2023.
- Pixel VQ-VAEs for Improved Pixel Art Representation:** First author. EXAG Workshop, AIIDE 2022.
- Facial Emotion Recognition using Convolutional Neural Networks:** First author. AICV 2018.

## PROJECTS & OPEN SOURCE

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- Homebrew Helper:** Developed & deployed a Discord bot with database connectivity for online role-playing games.
- [Open Source] poke-env:** Identified & fixed several bugs, added example code.