Aarohi Gupta

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Education

University of Illinois at Urbana-Champaign **Champaign, Illinois**
Bachelor of Science in Computer Science and Minor in Mathematics *Expected Graduation: December 2024*
Honours: Dean's list (Fall 2021, Spring 2022), James Scholar *Cumulative GPA: 4.0*

Relevant Coursework

Introduction to Data Structures and Algorithms with C++, Linear Algebra with Computational Applications, Prob. & Stat. for Computer Sci., Computer Architecture, Discrete Structures

Experience

Disruption Lab at Gies **September 2022 - Present**
Software Engineer *Urbana, Illinois*

- Collaborated with a cross-functional team of five to develop an NLP model for generating Solidity-based smart contracts.
- Implemented an end-to-end pipeline for data processing and chunking, leading to the fine-tuning of GPT-3 Curie.
- Conducted research to identify and compare evaluation metrics for LLMs, creating a new benchmark for evaluating code-generating models using CodeBleu and pass@k.
- Analyzed model performance with perplexity and tracked progress with Weights and Biases

CS 128: Introduction To Computer Science II **August 2022 - Present**
Course Assistant *University of Illinois at Urbana-Champaign*

- Provided one-on-one support to a subset of 500+ students for a total of 5+ hours per week, including assistance with coding problems, machine projects, and conceptual issues
- Reviewed and developed new lesson material to improve the effectiveness of the course
- Led weekly discussion sections for 3 hours, presenting a review of the course material and addressing conceptual questions to promote student understanding.

Projects and Organisations

Sign Language learning system | *Python, Node.js, ReactJS, Pytorch, Keras, Git* **January 2021 - Present**

- Developed an NLP-based translation model for converting English syntax to Indian sign language syntax
- Designed a visually engaging 3D interface using Blender and A-Frame to improve the user experience
- Presented the app to a group of 25 investors at an idea fair, receiving positive feedback
- Implemented a data processing and augmentation pipeline using PyTorch's Dataset and transforms functions to optimize model performance
- Trained a custom CNN with 5 convolutional layers on sign language alphabets, achieving a validation accuracy of 98.3%

Sentify: Spotify sentiment classification system | *Python, SpotifyAPI, Git* **January 2022 - Present**

- Improved efficiency of data acquisition and cleaning processes by implementing automation and pipelines for a dataset of 90k data points from Spotify's API
- Conducted comprehensive data analysis and visualization using Matplotlib, Seaborn, and Pandas to identify relevant features and apply feature engineering techniques
- Developed a machine learning system for song sentiment classification using ML algorithms (KNN, XGBoost, Decision Trees, and CNN) with the capability to classify sentiments for Spotify's library of 70 million+ songs
- Designed an algorithm that utilizes the machine learning system to classify songs on a user's profile and generate personalized playlists based on mood

BioSignals (as SIGMusic Co-chair) | *PurrData, C++* **January 2022 - April 2022**

- Conceptualized and implemented PurrData random drum sequencer using noise gates, oscillators, and envelope generators
- Collaborated with a team of 5 on a PurrData deserializer to integrate the drum and melody sequencers with the Arduino.

Technical Skills

Programming Languages: Python, Java, JavaScript, C++, Git, Markdown (HTML, CSS)
Technologies/Frameworks: Node.js, npm, ReactJS, OpenCV, NumPy, Pandas, TensorFlow, PyTorch, Bootstrap, MongoDB
Developer Tools: Visual Studio Code, Glitch, Heroku, Docker
Relevant Certifications: ApplyAI (AI4ALL); Web development, VR/3D development (Campk12); Intermediate Machine Learning, Introduction to SQL, Pandas (Kaggle)
Languages: English (Native proficiency), Hindi (Native proficiency) and French (Limited working proficiency)