

# Siddhant Dubey

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## EDUCATION

### Georgia Institute of Technology

Atlanta, GA

*Bachelor of Science in Computer Science; GPA: 3.80*

*Aug. 2021 – May 2024*

**Relevant Coursework** *Artificial Intelligence, Machine Learning, Computer Architecture, Data Structures and Algorithms*

## EXPERIENCE

### Amazon

San Francisco

*Software Development Engineer I, Amazon Music*

*July 2024 – Present*

### Amazon

San Francisco

*Software Development Engineer Intern, Amazon Music*

*May 2023 – Aug. 2023*

- Revamped the track sequencing algorithm using Java for new users to boost user engagement and improve customer retention
- Modified the MySoundtrack widget UI to optimize new user experiences
- Improved system efficiency by reducing latency in the process of decorating tracks by artists the user follows by **80% (20 milliseconds)**

### Red Hat

Remote Work

*Software Engineering Intern*

*May 2022 – Aug. 2022*

- Automated internal workflows using Python and Flask, increasing team productivity
- Optimized an internal tool **by 30%** through Flask boilerplate refactoring
- Enhanced an open-source Git Wrapper Python library by adding tag deletion functionality
- Improved maintainability of internal tools by refactoring unit tests and documentation

### UNC Chapel Hill

Chapel Hill, NC

*Research Intern*

*June 2020 – Aug. 2020*

- Developed an LSTM Network using PyTorch for movie dialogue classification, **achieving 79% accuracy**, outperforming previous models
- Utilized Pandas, Matplotlib, and NumPy to convert **3+ GB of data** into meaningful visualizations
- Evaluated model performance on 3 external domains for comprehensive assessment

## PROJECTS

### PyInterpreter: Custom Programming Language Interpreter | Python

January 2024

- Designed and implemented an interpreter for a custom programming language using Python, focusing on robust parsing and execution strategies
- Utilized advanced Python features to build an Abstract Syntax Tree (AST) for efficient language interpretation and runtime evaluation
- Incorporated error handling mechanisms to manage syntax and runtime errors, enhancing the interpreter's reliability and user experience
- Developed a comprehensive suite of unit tests to ensure the correctness and stability of the interpreter across various use cases

### Sidgrep: YouTube Semantic Search | Python, ReactJS, NextJS, TypeScript, OpenAI API

January 2023

- Implemented OpenAI embeddings API to index and embed 100+ YouTube videos for efficient content retrieval
- Designed a vector database for fast concept search across all videos using embedding queries
- Developed a user-friendly web interface with ReactJS, NextJS, and TypeScript for seamless interaction with the indexing system
- Empowered users to quickly find relevant content, enhancing their learning experience and engagement

## TECHNICAL SKILLS AND AWARDS

**Languages:** Java, Python, C/C++, SQL, JavaScript, HTML/CSS, R, Ruby, Dart, Go, Rust

**Frameworks:** NextJS, Flask, Django, PyTorch, TensorFlow, Flutter

**Developer Tools:** Git, Docker, Google Cloud Platform, Firebase, Planetscale

**Libraries:** pandas, NumPy, Matplotlib, NLTK, spaCy, ReactJS, Prisma

**Awards:** United States of America Computing Olympiad (USACO) Platinum Division, AIME Qualifier