# AIDAN SINGH

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## EDUCATION

**Cornell Tech (Cornell University),** New York, NY                                                                           May 2024
*Master of Engineering in Electrical and Computer Engineering*
Select Coursework: ML Engineering, ML Hardware, Natural Language Processing, Digital Signal Processing, Virtual Reality

**New York University,** New York, NY                                                                                         May 2023
*Bachelor of Music in Computer Science and Music Technology* | GPA: 3.73/4.0
Select Coursework: Machine Learning, Linear Algebra, Data Structures, Algorithms, Data Management & Analysis, Operating Systems

## TECHNICAL SKILLS

**Coding Languages:**  Java SE, Python, SQL, C#, C, C++, x86 Assembly, Matlab, Cuda
**Tools**:          PyTorch, SciKit-Learn, Pandas, Docker, AWS, GCP, Github, BigQuery, Apache Airflow
**Certifications:**   Safe Zone Certified (Cornell Tech), Deep Learning for Music Information Retrieval (Stanford University)

## EXPERIENCE

**Amazon Web Services, Software Development Engineer, Bedrock** (Java, Python),                December 2024 – Current
- Reduced customer costs and wait time by improving validators for Bedrock's CreateEvaluationJob API
- Owning consolidation of internal metrics packages for LLM evaluation in RAG and programmatic inference
- Responsible for Foundation Model evaluation tooling maintenance and improvement as part of AWS Bedrock Evaluation

**Tulip AI, Audio AI Scientist** (Python),                                                    January 2024 – May 2024
- Conducted literature review and designed fine-tuning methodology for Meta's audio-craft models
- Authored Python and Shell scripts to scrape data from the library of congress (archive.org api)
- Designed coding and data collection tasks for undergrad interns, exercised asynchronous communication & technical reviews

**Universal Music Group, Data Engineering Intern** (Python, SQL, GCP, Apache Airflow, Dataflow, Git),   June 2022 – August 2022
- Programmed a production incremental data pipeline (ETL) to ingest music streaming metrics from Meta
- Performed detailed analysis on Google Cloud Platform (GCP) Storage to identify potential optimizations saving $100k/year
- Collaborated effectively with another intern and engineering team using data lake exceeding 10 Petabytes

**NYU Music and Audio Research Lab (MARL), REU (**Python, C/C++, Git**),**                     November 2021 – May 2022
- Contributed to micarraylib, an open-source Python library for audio data aggregation in machine learning pipelines
- Translated audio algorithms from ambisonic encoder 'Array2SH' from C to Python with unit testing
- Participated in National Science Foundation REU Program, advised by Iran R. Roman under Juan P. Bello

**Alan Silverman, Audio Engineer** (Logic X),                                                 May 2021 – July 2021
- Used digital audio tools to modify recordings' pitch and timing for Grammy winning folk artist Judy Collins
- Edited audio files (piano stems) in 8 songs, splicing and compiling multiple files with creative discretion
- Collaborated with 80+ time Grammy nominated and winning audio engineer Alan Silverman

**Old Mill Road Recording, Audio Engineering Intern**,                                        August 2020 – February 2021
- Operated analog and digital audio equipment with a focus on signal flow for recording and outboard-processing
- Prepared microphones for drums, piano, and guitar. Set rack equipment and recall sheets
- Assisted Grammy award winning audio engineer Ben Arrindell, credited on Emmy winner Lillias White's first studio album

## PROJECTS

**Song Genre Classification** (Python, SKLearn)                                                               2023
- Designed and trained an SKLearn AdaBoost machine learning model to classify song genre using features from Spotify's API
- Achieved an average AUROC score of .88 for classifying 10 musical genres
- Prepared data from 50,000 songs through feature extraction and handling missing and low-quality data

**Spatial Drawing Application** (C#, Unity) *Code available upon request*                                      2023
- Created a unity based spatial design application (.apk) for VR, developed on Meta Quest
- Implemented locomotion and object manipulation from scratch utilizing the Unity XR Interaction Toolkit and 3D math
- Spearheaded object placement (placing, scaling and orienting primitive objects) within a group project