Aaron **Hsieh**

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Education

New York University *New York, NY*

B.S. in Computer Science, minor in Mathematics and Biomolecular Science *Sep. 2019 - May. 2023*

- GPA: 3.903/4.00
- Relevant Coursework: Data Structures & Algorithms, Object Oriented Programming, Intro to Operating Systems, Intro to Machine Learning, Linear Algebra & Differential Equations, Multivariable Calculus

Work Experience

Snap Inc. *New York, NY*

Software Engineer Intern - Perception ML & ML Infrastructure *May. 2022 - Aug. 2022*

- Created CLI tool in Golang for offline testing of graph execution, reducing time for MLEs to see ranking framework changes from weeks to minutes
- Built new retrieval source for contextual lens recommendation system based on visual embedding cosine similarity
- Added graph execution component for fetching and returning lens features from BigTable
- Increased count of unique lenses served in A/B with new retrieval source by over 300%, an OKR of Perception's roadmap

Meta *Menlo Park, CA*

Software Engineer Intern - Instagram Growth Ranking Services *May. 2021 - Aug. 2021*

- Authored data pipelines that processed 900+ billions of rows and reduced compute usage by over 50% with efficient SQL queries
- Implemented backend in Python for including profile pictures in Instagram notifications, increasing click count by 3.8% and click rates by 1.8%
- Extracted and added support for sparse features to be used in ML models, increasing follows by 1.8% in A/B testing
- Explored different ML model architectures such as LambdaRank and performed hyperparameter tuning to achieve best test AUC performance
- The pipeline and sparse features were launched and are still being actively used today, ranking in the top 10 for feature importance

New York University *New York, NY*

Teaching Assistant and Grader *Aug. 2020 - Present*

- Grade homework for Discrete Mathematics
- Graded worksheets for Linear Algebra and Differential Equations
- Graded lab reports and provided one-on-one assistance with students on lab activities for Introduction to Engineering and Design

NYU Langone Health *New York, NY*

Undergraduate Researcher - Computational Neuroscience *Mar. 2020 - Present*

- Wrote feature engineering pipelines to preprocess noisy EEG data and extract useful biomarkers for machine learning classification models
- Achieved test AUC (Area Under Curve) of 0.78 for Sudden Unexpected Death in Epilepsy (SUDEP) classification; published in neurology journal
- Applied different machine learning and deep learning methods from existing literature to EEG datasets for chronic back pain and epilepsy

Publications

Zhe S. Chen, **Aaron Hsieh**, Guanghao Sun et al. (2022) Interictal EEG and ECG for SUDEP Risk Assessment: A Retrospective Multicenter Cohort Study. *Frontiers in Neurology*.

Extracurricular Activities

Global Scholars and Leaders in Stem *New York, NY*

Member *Sep. 2020 - Present*

- Member of NYU Tandon School of Engineering's honors program, selected as 1 of 20 in class
- Independent capstone project for leveraging machine learning models to understand chronic back pain

NYU Varsity Men's Swimming *New York, NY*

Student Athlete *Sep. 2019 - Feb. 2022*

- Committed to 20+ hours per week of training and competition

Skills

Languages Python, Golang, SQL (professionally); C, C++, Java (in-class)

Technologies GCP (BigQuery, BigTable, GCS, Vertex AI), Kubernetes, Docker, Jupyter, TensorFlow, Sklearn, Pandas, NumPy