Simon Minami

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EDUCATION

Carnegie Mellon University — **Pittsburgh, PA**
MS in Computer Vision — *Graduation Date: December 2026*

Tufts University — **Medford, MA**
BS in Data Science (GPA: 3.7) — *Graduation Date: August 2024*

- Awards: Magna Cum Laude, Dean's List | Minors: Economics and Mathematics

WORK EXPERIENCE

Human Sensing Lab, Carnegie Mellon University — **Pittsburgh, PA**
Student Researcher — *September 2025 - Present*

- Novel view synthesis, 3D reconstruction, 3D Gaussian splatting, VR/AR

CBB Analytics — **Remote**
Computer Vision Engineer — *June 2024 - August 2025*

- Optimized player tracking data pipeline on GCP, improving processing speed by 20% and enabling rapid data analysis through the integration of Google Cloud Storage (GCS) and BigQuery.
- Developed comprehensive evaluation frameworks in PyTorch to rigorously assess player tracking models, enabling continuous improvements in accuracy and reliability.
- Leveraged SQL and Spark to execute complex queries on large datasets, reducing processing time by 15% and enabling the creation of in-depth statistical reports.

CBB Analytics — **Remote**
Machine Learning Intern — *September 2023 - May 2024*

- Improved player tracking metrics by 10% in basketball game footage by developing and implementing a basketball player tracking model using advanced multi-object tracking techniques.
- Increased spatial accuracy of player movements by 15% by developing a pipeline to extract precise x and y coordinates, using advanced machine learning models in PyTorch.

Reasoning and Data Analytics for Security Lab, University of Houston — **Houston, TX**
Machine Learning Research Intern — *Summer 2023*

- Developed a novel boosting-based transfer learning algorithm, outperforming baseline accuracy by 8%.
- Investigated the use of transfer learning with BERT models across multiple datasets to improve the accuracy of deception detection.
- Published research findings in the 20th International Conference on Information Systems Security (ICISS 2024).

PROJECTS

AutoTab

- Developed and deployed AutoTab, an AI-powered real-time guitar transcription system, reducing manual tablature creation time by 80% by combining computer vision and audio signal processing.
- Achieved 95% accuracy in real-time guitar tab generation through integration of a Convolutional Neural Network (CNN) for pitch detection and a custom hand-tracking model using MediaPipe.

SKILLS & INTERESTS

Skills: Python (PyTorch, OpenCV, Scikit-learn, Pandas, NumPy, Plotly), SQL, C++, Google Cloud Platform (GCS, BigQuery), Version Control (Git), MATLAB, Computer Vision, Deep Learning

Interests: Sports analytics, Basketball, Guitar, Cello