

BOYUAN CHEN

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EDUCATION

- New York University Abu Dhabi & Tandon School of Engineering UAE & USA** Sept. 2021 - May 2026
PhD Candidate in Computer Science and Engineering
- Pomona College, California, USA** Sept. 2017 - May 2021
Undergraduate Degree of Double Major in Computer Science and Mathematics

RESEARCH EXPERIENCE

- Inference Time Reduction for Large Language Models (LLMs) on Code Completion** Oct. 2022 – Nov. 2023
Lead Researcher; Co-advised by Prof. Muhammad Shafique, NYU Abu Dhabi & Prof. Siddharth Garg, NYU Tandon
- A thesis direction aimed at accelerating task-specific LLM models
 - Looking into quantization, model cascading, speculative decoding
 - Recently submitted paper to major conference
- Force-Aware Interface via Electromyography for Natural VR/AR Interaction** Sept. 2021 - Jan. 2022
Third Author; Advised by Prof. Qi Sun, NYU Tandon
- Research project on VR/AR object interaction using force signal, collected by EMG muscle trackers
 - Built real-time data collection pipeline for pose tracker and EMG trackers in python, C# and C++
 - Hired 23 participants and collected user data; responsible for data section in published paper
- Intuitive Explanation for Why ViT Trains Badly on Small Datasets** Mar. 2022 - May. 2022
Co-First Author; Course Project, NYU Tandon
- Implemented layer-level visualization of attention map for ViT and feature map for ResNet-18
 - Concluded with a visualization examiner for whether ViT has learned the inductive bias
 - Project paper available on [arxiv](#)

DEVELOPING EXPERIENCE

- Pre-Syndromic Surveillance for Improved Detection of Emerging Public Health Threats** Jan. 2022 - Aug. 2022
Lead Engineer & Mentor; Advised by Prof. Daniel Neill, NYU Courant
- Built an open-source software for NYC Department of Health and Mental Hygiene (DOHMH) on public health surveillance using syndromic data collected from local hospitals, used by 50 hospitals in NYC
 - Developed contrastive topic modeling and poisson scan statistic pipelines; wrote detailed docs
 - Used numba library to speed up python recursions by 11 times
 - Accepted to 2022 Syndromic Surveillance Symposium workshop
 - Detailed project information and code are publically available on [ML4G Lab's official website](#)
- Database System for Alibaba Transactions** Jan. 2022 - May. 2022
Engineer; Course Project, NYU Tandon
- Developed a database system based on PostgreSQL for Alibaba transactions on electronic products
 - Developed a website-based interactive user interface with streamlit
 - Designed ER Diagram and wrote queries for online interactions
 - Code and documentation available on [github](#)
- AR Spacial Language Learning In The Wild** Aug. 2020 - Dec. 2020
Lead Engineer; Advised by Prof. Misha Sra, UCSB
- Self-developed an AR in-situ annotation app for Android mobile phones
 - Used Google Cloud Anchor to achieve real-time web server synchronization, with 1-meter accuracy
 - Used by the lab to study the effectiveness of in-situ AR annotation for outdoor objects on language learning

PUBLICATIONS

- Force-Aware Interface via Electromyography for Natural VR/AR Interaction** Oct. 2022
SIGGRAPH Asia 2022, Third Author; url: <https://dl.acm.org/doi/10.1145/3550454.355546>

SKILLS

- *Programming Languages:* Python, SQL, R, C++, Java, C#, Android, Rust, HTML/Javascript, Shell
- *Knowledge:* LLMs, Inference Acceleration, Computer Graphics, Computer Vision