

XIAOCHEN (NIGEL) LU

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EDUCATION

New York University

Master of Science in Computer Science

New York, NY

May 2025

- Cumulative GPA: 3.88/4.0; Coursework: *Algorithms, Computer Vision, Software Engineering, Network Analysis, Networking*

New York University

New York, NY and Shanghai, China

Bachelor of Science, Data Science, minor in Computer Science

May 2023

- Cumulative GPA: 3.91/ 4.0; Magna Cum Laude; NYU Honors Scholar; Dean's List for all Years
- Coursework: *Machine Learning, Deep Learning, NLP, Computer Architecture, Data Structures, Database*

SKILLS

- Technical Skills: **Python** (PyTorch, Django, OpenCV, Matplotlib), **High-performance/Distributed Computing**, **JavaScript** (TypeScript, React, Vue, ExpressJS), **Java** (Spring Boot, multi-threading), **CI/CD** (Travis + AWS), **SQL** (MySQL, PostgreSQL)

RESEARCH & PROJECTS

Few-shot Segmentation with Adaptive Data Augmentation and Cross Attention

Shanghai, China

Co-authored a paper and submitted to CVPR 2023

Mar. 2022 - May 2023

- Proposed an instance-aware data augmentation strategy to improve support image diversity and reduce distribution inconsistency between query and support images in low-data regimes, boosting model performance by 3.7% in ablation studies
- Incorporated a 4-D consensus cross attention module to align query and support features, increasing accuracy by 5.4%
- Wrote 1000+ lines of code to build a scalable PyTorch codebase for few-shot segmentation research, enabling easy backbone swaps

Multimodal Online Student Engagement Dataset

Abu Dhabi, UAE & Remote

Co-authored a paper and published on **Nuclear Physics B** journal

May 2021 – Mar. 2022

- Created a 17GB labeled engagement detection dataset of 300+ participants in online learning settings
- Established a CNN-RNN hybrid baseline model to process spatial and temporal signals simultaneously

Evaluating Parameter-efficient Tuning Methods in Low-data Regimes

New York, NY

Research advised by Professor Sam Bowman on param-efficient tuning in NLP

Sept. 2021 – Dec. 2021

- Reproduced four SOTA parameter-efficient tuning methods based on HuggingFace libraries
- Evaluated the performance of these methods on various NLP tasks (e.g., sentiment analysis, Q&A) with various train/test partitions
- Concluded with a research paper how to balance performance and converging speed in parameter-efficient tuning

Real-time Object Detection in Autonomous Driving

New York, NY

Course project advised by Professor Augustin Cosse

Sept. 2021 – Dec. 2021

- Pre-processed and prepared CityScape dataset for object detection under autonomous driving scenarios
- Finetuned YOLOv3 model on the prepared dataset by freezing the backbone DarkNet53 and tuning the feature pyramid network to detect what matters in driving situations
- Achieved detection speed of 42 fps on personal computer, with a mAP of 49.6% when transferring to out-of-domain testing images

PROFESSIONAL EXPERIENCE

eBay Inc.

Shanghai, China

Software Engineering Intern, Cloud Infrastructure Team

Sept. 2022 – Aug. 2023

- Average-Time-to-Business (ATB) Dashboard**
 - Proposed and implemented a Redux + React+Django Average-Time-to-Business (ATB) dashboard to monitor cluster statuses and send checkout alerts, reducing crisis response time by 25% and boosted service availability from 99.14% to 99.8%
- KeyHub (Community's Encrypted Email UI for Password Exchange)**
 - Led the refactorization of KeyHub to conform with the latest OpenPGP standard and patched 60+ security vulnerabilities
 - Integrated KeyHub with eBay's Cloud Console using JS-plugin and Redux, boosting productivity of over 100 infra engineers

Kaizntree Co.

New York, NY and Remote

Co-founder and CTO

Sept. 2021 – Present

Kaizntree Small Business Management Platform

- Built a one-stop management solution for small businesses using Vue, Django Rest Framework, PostgreSQL, and Heroku, empowering 100+ happy customers by reducing time spent on management tasks from 15 to just 2 hours per week
- 2-way integrated with 4 major sales channels using OAuth, including Shopify, Square, Etsy, and Xerox, and automated stock sync across platforms, putting an end to the cumbersome manual updates and stock inconsistency on different channels
- Led Kaizntree's development team and adopted Scrum, Travis CI/CD with Heroku to minimize friction, allowing Kaizntree to address customer feedbacks under 48 hours and continuously rolling out new features weekly

NYU Summer Launchpad & NYUxYale Startup Competition

- Won the 2023 NYU Summer Launchpad and 2023 NYUxYale Startup Competition, receiving a \$10,000 non-dilutive funding
- Earned investment from 3 individual investors and received a total of \$50,000 investment with Kaizntree valued at 4 million