

XIAOCHEN (NIGEL) LU

New York, NY | +1 (845) 248-2938 | xiaoclu@outlook.com | <http://nigellu.com>

EDUCATION

New York University, Tandon School of Engineering

Master of Science in Computer Science (Cumulative GPA: 3.88/4.0)

Relevant Coursework: Big Data, Algorithms, Advanced Database, Deep Learning

New York, NY

May 2025

New York University, NYU Shanghai

Bachelor of Science, Data Science, minor in Computer Science (Cumulative GPA: 3.91/ 4.0)

Magna Cum Laude; NYU Honors Scholar; Dean's List 2019-2023

Relevant Coursework: Applied Internet Technologies, Computer Architecture (Objective C), Data Structures (OOP), Databases, Machine Learning (TensorFlow), Natural Language Processing (PyTorch), Data Analytics, Decision Model and Analysis

New York, NY and Shanghai, China

May 2023

SKILLS

Coding Languages: SQL, R, Python, JavaScript, TypeScript, Java, Objective C

Software Tools: PyTorch, TensorFlow, PostgreSQL, MySQL Pandas, NumPy, SciPy, R Studio, Matplotlib, Seaborn, Scikit-learn, React.js, Vue.js, Django, Express.js, Spring Boot, Maven, JPA, Thymeleaf, Git, Docker, Kubernetes, Chart.js, OpenCV

Other Tools: Circle/Travis CI (CI/CD), AWS EC2/EB/RDS, Agile Dev, Linux/UNIX, Tableau, Office/Google Suite

RESEARCH & PROJECTS

Few-shot Segmentation with Adaptive Data Augmentation and Cross Attention ([link](#) to paper on arXiv) **Mar. 2022 - May 2023**

- Proposed an instance-aware **data augmentation** strategy to improve support image diversity and reduce distribution inconsistency, boosting model performance by 3.7% in ablation studies
- Incorporated a 4-D consensus cross attention module in **PyTorch** to align query and support features, increasing accuracy by 5.4%
- Built a scalable **PyTorch** codebase for running few-shot segmentation research experiments **distributedly** on computing centers

Multimodal Online Student Engagement Dataset ([link](#) to blog)

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

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

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., Software Engineering Intern – Cloud Infrastructure Team, (Shanghai, China)

Sept. 2022 – Aug. 2023

- Innovated an Average-Time-to-Business (ATB) dashboard using **Redux**, **React.js**, and **Spring Boot** to monitor cluster statuses and send checkout alerts, reducing crisis response time by 25% and boosting service availability from 99.14% to 99.8%
- Implemented a predictive analytics model using **Scikit-learn** and integrated it to ATB Dashboard to forecast system load and potential downtime, further reducing system downtime by 40%
- Developed a **SQL-based tool** for automating anomaly detection by *analyzing patterns and metrics* in eBay's cloud infrastructure performance data, benefiting 100+ infrastructure engineers by providing predictive insights into system reliability

Kaizntree Co., Co-founder and CTO, (New York, NY and Remote)

Sept. 2021 – Feb. 2024

- Built a one-stop management solution for small businesses using **Vue.js**, **Django REST framework**, and **PostgreSQL**, earning 100+ happy customers by reducing their time spent on management tasks from 15 to just 2 hours per week
- Designed and executed a data-driven market analysis strategy using **Pandas** and **Seaborn**, identifying key growth opportunities for customers, resulting in an estimated 35% increase in customer acquisition during the roll-out window of this feature
- Collected and analyzed 1000+ user feedback using **Pandas** and adopted **Scrum Development**, **Circle CI/CD** with **Heroku** to minimize friction throughout the software development lifecycle (SDLC), enabling Kaizntree to address BUGs under 24 hours
- Spearheaded the **2-way integration** between Kaizntree and 4 major sales channels using **OAuth2** (Shopify, Square, Etsy, and Xerox) and automated stock & order sync across platforms, putting an end to manual updates and stock inconsistency on different channels
- Won the 2023 NYU Summer Launchpad and 2023 NYUxYale Startup Competition, with a reward of \$15,000 non-dilutive funding
- Earned investment from 3 individual investors and received a total of \$250,000 investment with Kaizntree valued at 5 million