

# XIAOCHEN (NIGEL) LU

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## EDUCATION

### New York University

*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

**Frameworks & Tools:** React.js, Vue.js, Django, Spring Boot, Git, Docker, Kubernetes, PostgreSQL, PyTorch, PySpark, Hadoop

**Other:** Circle/Travis CI (CI/CD), AWS EC2/EB/RDS, Agile Dev, Linux, Figma Prototyping, Slack, Office/Google Suite

## PROFESSIONAL EXPERIENCE

### Department of Design and Construction, NYC Government Software Engineer Intern (New York, NY) Jun. 2024 – Aug. 2024

- Developed machine learning models using *Azure ML Studio*, *PySpark*, and *Hadoop*, applying random forest regressor and time series forecasting to predict construction timelines and enhance construction planning efficiency
- Built a React app with Django to deliver analysis results and incorporated *OpenAI API* to provide AI-powered interactive data insights for over 400 non-data scientist users within the Department of Design and Construction

### 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 *Django* 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., Full-stack Software Engineer, (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 the trust of 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 100+ user feedback using *Pandas* and adopted *Scrum Development*, *Travis CI/CD* with *Heroku* to minimize friction throughout the software development lifecycle (SDLC), enabling Kaizntree to address BUGs 40% faster
- Spearheaded the *2-way integration* between Kaizntree and 4 major sales channels using *OAuth2* (Shopify, Square, Etsy, and Xero) and automated stock & order sync across platforms, putting an end to manual updates and stock inconsistency on different channels

### Expsoft LLC., Software Engineering Intern, (Wuxi, China)

May 2021 – Sept. 2021

- Leveraged the power of *Spring Boot*, *Thymeleaf*, *JPA*, *Maven*, and *MySQL's stored procedures/triggers* to build highly automated and customizable online auditing platforms for governments
- Secured a project from the Soochow government worth \$400,000 to supply a customized audit platform

## 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