**XIAOCHEN (NIGEL) LU**

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**EDUCATION**

**New York University**  New York, NY

*M.S.* in *Computer Science* **(**Cumulative GPA: 3.95/4.0)Sept. 2023 – May 2025 (Available to start full-time starting Feb. 2025)

Relevant Coursework: Algorithms, Big Data, Computer Vision, Intro to Java (Spring Boot), Software Engineering (Django + scrum development), Computer Networking, Network Security, Intro to Offensive Security, Information Security, Programming Languages

**New York University, NYU Shanghai** New York, NY and Shanghai, China

*Bachelor of Science, Data Science, minor in Computer Science (*Cumulative GPA: 3.91/ 4.0) May 2023

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

**SKILLS**

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

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

***Other:*** Git, 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](https://arxiv.org/abs/2401.09866) 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](https://wp.nyu.edu/smartlab/engagement-detection-in-online-learning/) 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