Yu (Noelle) Lo

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EDUCATION

University of Washington 09/2025 – 06/2027
MS, Electrical and Computer Engineering Seattle, WA
- Coursework: The Self-Driving Car: Intro to AI for Mobile Robots, Machine Learning Operations, Web Programming (JavaScript / React.js), Database Systems (SQL / NoSQL), Software Engineering for Embedded Applications (C++)

Northeastern University 01/2025 – 08/2025
MS, Computer Science, GPA: 4.0 / 4.0 Seattle, WA
- Coursework: Object-Oriented Design (Java), Data Structures, Algorithms, and their Applications within Computer Systems (C)

SKILLS

- **Programming Languages**: Python, Java, JavaScript, C/C++, Swift, SAS
- **Back-End & Web Development**: React.js, Node.js, Express.js, RESTful API, FastAPI, HTML/CSS, TypeScript
- **Data & Analytics:** SQL, R, SPSS, MongoDB, Data Imputation, Longitudinal Modeling, Data-driven Reporting
- **Cloud & Tools:** AWS, Git, GitHub, Unix, Jira, Figma, VS Code
- **ML & Robotics:** YOLOv5, ROS2, CARLA

PROFESSIONAL EXPERIENCE

Sensors, Energy, and Automation Laboratory (SEAL), University of Washington 06/2025 – Present
Volunteer Full Stack Software Engineer Seattle, WA
- Built internal full-stack tools using Google Apps Script, JavaScript, and React to support lab automation and tracking workflows, used by 10+ researchers across the lab
- Developed modular backend APIs to collect real-time sensor data from embedded devices
- Collaborated with researchers to align frontend User Interface and User Experience (UI/UX) design with lab workflows, improving usability and internal adoption

PAREXEL (Global clinical research organization with 24,000+ employees across 50+ countries) 12/2018 – 11/2024
Senior Statistical Programmer Taipei, Taiwan
- Led backend data engineering and pipeline automation for regulatory-grade clinical systems, enabling high-throughput processing and validation across global trials
- Built scalable ETL pipelines using Python, R, SQL, and SAS to transform raw clinical datasets into analysis-ready formats, improving operational efficiency by 45% across high-volume Phase 2/3 studies
- Designed modular, reusable processing components within a client-server data processing architecture, supporting studies with heterogeneous data schemas, reducing duplicated logic by 60% and improving long-term maintainability
- Engineered automated validation & reconciliation workflows with structured logging; applied data modeling to deliver analysis datasets & visualizations, improving insights and early issue detection across 100+ production-scale runs
- Supported onboarding and provided technical guidance to junior programmers across global project teams

SELECTIVE PROJECTS

AI-Powered Autonomous Vehicle Navigation System — *Python / ROS2 / YOLOv5 / CARLA* 06/2025
- Designed and implemented a modular, real-time perception and control pipeline leveraging ROS2, Python, and C++ for a 1/10th scale autonomous MuSHR. rally car
- Integrated Computer Vision (YOLOV5) and sensor fusion techniques within the ROS2 framework to process real-time camera input and publish precise object detection results
- Engineered robust localization (Particle Filter) & mapping modules, enabling autonomous navigation & obstacle avoidance in simulated (CARLA) and real-world environments

Intelligent Excel Automation Tool with LLM — *Google Gemini API / Pandas / RESTful API / JavaScript* 04/2025
- Developed & deployed a web app (Flask/JS) for AI-driven Excel data processing via natural language commands
- Integrated Google Gemini API to leverage Large Language Models (LLM) for complex data cleaning, analysis, and content generation tasks, significantly enhancing data processing efficiency
- Designed a robust module to securely parse Excel files (Pandas) and structure data for AI processing
- Applied Prompt Engineering techniques to transform user commands and Excel data into AI-comprehensible inputs, enabling functions such as data summarization, information extraction, and custom report generation
- Built a user-friendly interface for seamless file uploads, command input, and real-time preview of AI-processed results