

# Yineng Li

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## Education Background

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**Memorial University of Newfoundland**, Master of Computer Engineering Sept 2023 – May 2025

• **Coursework:** Advanced Digital Systems, Industrial Machine Vision, Software Design, Advanced Data Networks

**Rensselaer Polytechnic Institute**, Bachelor of Science, Electrical Engineering Sept 2023 – May 2025

• **Coursework:** VLSI Design, Embedded Control, Computer Components and Operations

## Experience

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**Engineer**, Shanghai Inspection and Testing Institute of Instruments and Automation Systems – Shanghai, China Sep 2022 - Aug 2023

- Supported business development by drafting technical proposals and project cost estimates for safety certification services
- Defined design specifications and functional requirements for embedded and high-voltage systems under safety and EMC standards
- Performed electrical calculations (voltage drop, fault current) using MATLAB and IEC-compliant methods to assess circuit safety
- Conducted EMC tests to identify and document radiation levels, ensuring compliance with IEC 61000 emission limits
- Verified technical documentation against IEC 61508 Functional Safety requirements, aiding in audit readiness
- Collaborated with the O&M team to review system performance and implemented design changes, improving test throughput
- Issued final product certifications under IEC Functional Safety Standards after successful system review and validation

**Risk Advisory Intern**, Deloitte – Shanghai, China Aug 2019 - Nov 2019

- Assisted in executing a cybersecurity audit for an automotive client, identifying access vulnerabilities and improving internal security practices
- Interviewed department leads to map user account permissions, resulting in a detailed access control matrix for audit evaluation
- Delivered security awareness training to staff on social engineering and phishing prevention, improving the employee phishing test success rate
- Contributed to requirement-gathering sessions by documenting system access points and identifying regulatory risk areas
- Tracked regulatory compliance risks related to user access and documented gaps in the audit report for senior consultants
- Drafted conceptual risk mitigation strategies tailored to the client's automotive data flow and presented findings in team review sessions

## Projects

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### Wearable motion Monitoring Device

- Developed a wearable system to monitor lower-limb motion during physical rehabilitation in real-time.
- Developed ESP32-based sensor modules that used IMU and force sensors to collect data about joint angles and foot landing impact.
- Implemented the wireless data transmission framework and made contributions to the backend database system and web dashboard, enabling real-time visualization.
- The team prioritized developing a scalable system that remains modular and cost-effective for both clinical facilities and home usage.

### License plate Recognition System

- Collaborated in a two-person team to develop a license plate recognition system based on traditional image processing techniques.
- Took primary responsibility for implementing the image preprocessing pipeline, including grayscale conversion, noise reduction, histogram equalization, Canny edge detection, and morphological operations.
- Built modules for HSV color-based character segmentation and template matching to recognize license characters under controlled conditions.
- Proposed future improvements involve automatic parameter tuning and the adoption of convolutional neural networks (CNNs) for enhanced robustness.

### Flight Booking and Delay Prediction System

- Jointly developed a flight booking platform with integrated delay prediction functionality, working as part of a two-person team.
- Personally led the design and implementation of backend RESTful APIs (ASP.NET Core) and machine learning models (MLP, SVM, Naive Bayes, KNN) using real-world flight and weather data.
- Applied SMOTE techniques to address class imbalance, achieving 90 %+ classification accuracy with MLP models.
- Focused on building scalable API architecture, handling NDC 17/21 schema conversions, and training/evaluating machine learning pipelines.

## Technologies

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**Languages:** English, Mandarin Chinese

**Skills:** NX CAD, C/C++ , Python, Java, Matlab, Microsoft Office, Embedded Systems, Signal Processing, Analog Electronics, Microcontrollers, Testing and Validation, Troubleshooting, Project Management, Collaboration, Problem Solving