

Licheng Lin

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Two years of experience delivering academic innovations. Eager to channel my abilities to make a tangible difference in the industry.
Unlimited work authorization.

EDUCATION

University of California, Los Angeles (UCLA)

Los Angeles, CA

Master of Engineering, Artificial Intelligence (Computer Science)

Sept. 2024–Expected Dec. 2025

Zhejiang University

Hangzhou, China

Bachelor of Engineering, Information Engineering

Sept. 2022–June 2023

Cumulative GPA: 3.80/4.00, Junior/Senior GPA: 3.88/4.00

Selected Honors: Zhejiang University Scholarship of Academic Excellence, Scholarship of National Talents Training Base.

EXPERIENCE

Research Intern – University of Miami

Coral Gables, FL

Clustered Federated Learning, Inverse Reinforcement Learning

July 2023–June 2024

- Advisor: Prof. Mingzhe Chen, Department of Electronic and Computer Engineering
- Developed an efficient clustered federated learning framework to tackle non-IID challenge of federated learning

Research Intern – Zhejiang University

Hangzhou, China

Secure Federated Learning, Semantic Communications

Sept. 2022–June 2023

- Advisor: Prof. Zhaohui Yang, College of Information Science & Electronic Engineering
- Led a team of 3 to design a novel framework for secure federated learning with differential privacy in multi-cell networks
- Collaborated with a team of 4 to devise a new approach of semantic information extraction for text transmission

PROJECTS AND RESEARCH

Bookmark ArtChive | *Next.js, Tailwind CSS, NestJS, Node.js, NextAuth, Prisma, PostgreSQL* | [Demo](#) | [Github Repo](#)

- Developed Bookmark ArtChive, a personal art vault software that allows users to save, tag, and rediscover their Pixiv favorites
- Engineered local download and browsing of Pixiv bookmarks, ensuring uninterrupted access to favorite artworks at anytime
- Implemented an intuitive organizing and filtering system for users to easily find and enjoy specific pieces in collection

TOEFL SmartBeat | *Next.js, Tailwind CSS, Go, Ent, PostgreSQL, AWS S3* | [Demo](#) | [Github Repo](#)

- Developed TOEFL SmartBeat, an innovative web platform designed to help users master essential skills for TOEFL preparation
- Designed a “sentence-by-sentence intensive listening” feature for the listening practice, allowing users to pinpoint challenging sentences and utilize AI-powered repetition to enhance auditory comprehension
- Leveraged OpenAI’s Whisper model to transcribe audio into sentence-level segments, providing accurate practice material

Link Cockpit | *Next.js, Tailwind CSS, Flask, Python, MongoEngine, MongoDB* | [Demo](#) | [Github Repo](#)

- Built Link Cockpit, a personalized command center for swift web navigation, enhancing productivity for frequent users
- Developed customizable browser start pages for organizing and accessing frequently used links instantly
- Optimized the application for lightweight and blazing-fast performance, streamlining daily web navigations

Efficient Clustered Federated Learning | *IEEE GLOBECOM 2024* | *Python, PyTorch* | [Paper](#)

- Developed an advanced framework for edge devices with non-IID data to autonomously form clusters and conduct training
- Enhances clustering efficiency significantly by leveraging local gradient information, optimizing the overall training process
- Reduces up to 99% clustering iterations, resulting in 14% fewer training iterations without compromising model performance

Federated Learning with Differential Privacy in Multi-cell Networks | *IEEE ICC 2023* | *Python, CVXPY, CVXOPT* | [Paper](#)

- Proposed an secured framework of federated learning with differential privacy in multi-cell networks
- Optimizes user connections, transmission power and privacy noise jointly by a novel genetic-algorithm-based method
- Reduces up to 73% total privacy leakage compared to existing algorithms

Semantic Information Extraction for Text Transmission | *IEEE/CIC ICC 2023* | *Python, PyTorch, MATLAB* | [Paper](#)

- Proposed a new approach for text transmission to semantic information extraction in resource-constrained networks
- Combines semantic information selection with knowledge graph and probability theory
- Achieves an additional up to 4x compression efficiency compared to existing methods

TECHNICAL SKILLS

- **Languages** – C, Java, Python, HTML, CSS, JavaScript, TypeScript, MATLAB, Verilog HDL
- **Frameworks** – PyTorch, Flask, FastAPI, React, Next.js, Tailwind CSS, Node.js, NestJS
- **Tools, Databases, Messaging Frameworks** – Git, Docker, Redis, MySQL, MongoDB, PostgreSQL, RabbitMQ, Kafka
- **Familiar with** – Spring, Spring Boot, Go, Gin, Gorm, Echo, Ent, Rust, Django, Vue 3, Nuxt 3, Google Cloud, OCI, AWS