

Charlotte Lew

Philadelphia, PA, 19104 | (818)-518-8138 | clew27@seas.upenn.edu

[LinkedIn](#) | [GitHub](#) | [Personal Website](#)

TECHNICAL SKILLS

Front End | React, NextJS, Javascript / TypeScript, CSS / Tailwind CSS, HTML, Vue.js

Back End | Node.js, Express.js, Python, Java, MongoDB, MySQL, pandas, matplotlib

Testing/Deployment | GitHub Actions, Postman, Jest, JUnit, AWS:EC2, AWS:ECS, Vercel

Developer Tools | Docker, Git, VS Code / IntelliJ/ PyCharm, npm / yarn, Cursor, Figma

EXPERIENCE & PROJECTS

Intern - Software Engineer | Wayhome*

Aug 2025 - Present

Mid-term rental web application

JavaScript | React | Node.js | HTML | CSS

- Built interactive map view and filters for listings using React and Mapbox, improving property discoverability
- Implemented booking flow components including date picker, availability checks, and mobile responsiveness

Intern - Design Engineer | [AML-PENN](#)*

May 2025 - Present

Large-Format Additively Manufactured Wall System

C# | Python | Rhino | Grasshopper

- Developed custom parametric tooling in Rhino/Grasshopper using Python and C# to automate complex geometry manipulation, enabling dynamic control of parametric designs.
- Refactored scripts to displace NURBS curves based on repulsion fields, optimizing geometric distribution while enforcing manufacturable spacing, increasing curve generation speed by over 200%.
- Automated adaptive curve generation from control points at 2mm intervals, reducing manual adjustments and ensuring fabrication fidelity.

Backend Engineer | [Pennstagram](#)*

Mar 2025 - May 2025

Social media site with full support for images (Group Project)

AWS EC2 | RDS | S3 | Apache Spark | Kafka | Node.js

- Integrated a Kafka-backed federated content system that ingests and publishes standardized JSON posts across peer social platforms, enhancing user reach and diversity of content through cross-site data exchange.
- Developed a Spark-based ranking pipeline that builds a weighted social graph and runs adsorption to compute personalized post relevance scores, enabling real-time, low-latency feed generation upon user login.
- Orchestrated backend deployment via AWS EC2, RDS, and S3 for scalable hosting and media storage

Full Stack Engineer | [NokAI](#)

Jun 2025 - Jul 2025

Audio calling app with real-time translations (Personal Project)

SwiftUI | Node.js | Express | MongoDB

- Developed and deployed a Node.js + Express backend with MongoDB to handle user authentication, friend management, and persistent storage of call metadata.
- Integrated WebSockets for live audio streaming between peers and server processing for transcription and translation through Whisper AI.
- Overcame challenges in buffering, speech accuracy, and translation delays by throttling audio packets and optimizing async processing.

*Code available upon request (private GitHub repository per course/lab policy)

Education

University of Pennsylvania, School of Engineering and Applied Sciences

May 2027

Candidate for Bachelor of Applied Science | Majors in Computer Science and Design