

# ChiehHsiang (Joseph) Hsu

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## Education

**University of Pennsylvania** Aug 2025 - Expected May 2027

MSc, Computer and Information Technology (Computer Science)

- Coursework: Software Development (Java), Computer Systems (C), Database & Information Systems (SQL, NoSQL), Data Structures and Software Design (Java), Algorithms & Computation, Machine Learning (Python)

**National Taiwan University** Sep 2020 - Jun 2024

B.B.A., International Business; Minor in Business Analytics

- Served as a Software Engineer at the LLM Lab and co-authored a published book focused on knowledge graph construction and applications
- Led a 25-member secretariat of Asia's largest student forum, coordinating a 300-participant conference with attendees from 23 countries

## Technical Skills

- Programming Languages: Java, Python, JavaScript, C, C++, TypeScript
- Database Management: SQL, NoSQL, MongoDB, PostgreSQL, Neo4j, Tableau
- Web Development: HTML, CSS, React.js, Node.js, Vue.js, RESTful APIs, JWT, D3.js, Figma, Jest, Angular
- Technology: AWS (EC2, RDS, Lambda), Docker, Kubernetes, Git, CI/CD, Linux, Networking
- Certificates & Courses: Meta Front-End / Full Stack Developer Certificate (UI/UX, Responsive Web Design, Usability Testing, Version Control, Databases, APIs Development), UC Berkeley CS61B Data Structures and Algorithms, AWS Certified Solutions Architect - Associate

## Work Experience

**Tesla** Sep 2024 - Mar 2025

Sales Analyst

- Rebuilt an internal sales tracking interface with a modern SPA and RESTful services, increasing regional sales by 4.6%
- Conducted weekly performance reviews using SQL and Tableau, providing sales and delivery teams with comprehensive insights to drive actions
- Redesigned sales process and segmented KPIs into actionable metrics, guiding frontline actions that lifted sales by 7.6%

**Shopee, Sea Group** Oct 2023 - Apr 2024

Data Engineering Intern

- Built an asynchronous task scheduler with Celery and RabbitMQ, reducing warehouse manual scheduling workload by over 90%
- Modernized ETL pipelines by implementing automated CI/CD workflows with GitLab CI, Docker, and Helm, cutting infrastructure cost by 50%
- Migrated batch jobs to Airflow and Spark on Kubernetes, lowering compute cost by 75% and improving scalability
- Unified multi-system data with Python and SQL to compute warehouse KPIs, collaborating with the HR department to set threshold targets that improved workforce planning

**Microsoft** Jun 2022 - Jun 2023

Data Engineering Intern

- Shipped Flask microservices that unified budgeting and CRM, reducing manual reconciliation by 83% and providing near real-time visibility
- Automated performance reporting with Power BI and Azure REST APIs, increasing quota attainment by 14%
- Built Python web scrapers and Power BI dashboards to identify high-potential companies, driving targeted outreach converting 20+ customers

## Selective Projects

**SafeTrip: Database Full-stack Application** – JavaScript, Python, MySQL, PostgreSQL, React.js, APIs, Testing, git Aug 2025

- Engineered data processing pipelines in Python, handling over 500,000 data points from NYC Open Data and Airbnb API to recommend safe, personalized destinations based on user preferences
- Designed a BCNF-compliant MySQL database and optimized SQL queries for performance, significantly reducing data retrieval times and enhancing user experience

**Spotify Full-Stack Clone** – JavaScript, Python, React.js, MongoDB, AWS (RDS, EC2), Docker Jan 2026

- Built a full-stack music streaming platform with authentication, playlist management, and personalized recommendations, supporting scalable user interactions with RESTful APIs
- Leveraged MongoDB to store dynamic user preferences and track data, reducing content retrieval time by 35% and enabling real-time personalized streaming

**Client-Server Architecture with MySQL on AWS** – AWS EC2, Linux, MySQL, Networking, Security Groups Dec 2025

- Implemented a client-server MySQL architecture using two AWS EC2 instances, configuring secure remote database access and validating end-to-end connectivity
- Configured network security rules and MySQL settings to enable controlled remote access between EC2 instances