Chih-Hsing (Hathaway) Chen

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EDUCATION

Virginia Tech	Falls Church, VA
Master of Engineering in Computer Science	Expected Graduation May 2025

Courses: Data Structures and Algorithm, Cloud Computing, Web Application Development, Mobile Development

SKILLS

Frontend	JavaScript, TypeScript, HTML5 | React, Vue
Backend	Python, Java, C++, C#, .NET, Kotlin, Golang (Go), Node.js, Scala, SQL | Django, Flask | MySQL, PostgreSQL, MSSQL, MongoDB, Redis | Hive
AWS	Certificate: [AWS CLF-C02](AWS CLF-C02) | API Gateway, Aurora, CDK, CloudFormation, DynamoDB, EC2, ECS, EKS, ELB, Lambda, RDS, Route53, S3, VPC
Others	Docker, Kubernetes, Terraform | CI/CD, Jenkins | Airflow, ElasticSearch, Grafana, Kafka, Apache NiFi, JUnit, Oozie, Kibana, Vault, Vim

WORK EXPERIENCE

Big Data Platform Engineer Intern — Reston, VA
Eviden — Aug. 2024 - Present

- Managed 10+ **AWS EC2** instances with **Kubernetes**, enabling scalable and distributed data processing clusters
- Integrated **Spark** and **Kafka** pipelines for real-time data streaming and processing
- Improved system performance by 30% through optimization of **DNS** resolution and cloud-based networking

Graduate Research Assistant — Falls Church, VA
Virginia Tech — May 2024 - Aug. 2024

Project: Designing Social Cyber Vulnerability Measures to Protect Older Adults Online

- Leveraged **Kafka** for real-time ingestion, applying **regex-based filtering** to clean data, and collaborated with the FTC
- Stored and analyzed processed data from the **YouTube API** in **AWS Redshift**, enabling scalable querying
- Applied **Latent Dirichlet Allocation (LDA)** for topic modeling to extract the top 5 prevalent scam topics

Software Engineer Intern — New York, NY
Clocky — May 2024 - Jul. 2024

- Enhanced website functionality by resolving 50+ issues using **React** and **GraphQL**, applying efficient algorithms and data structures to improve query performance by 25%
- Designed scalable backend services with **Serverless APIs** and optimized caching with **Redis**

Software Engineer Research Intern — Taipei, Taiwan
Academia Sinica — Jun. 2021 - Aug. 2023

2023 11th International IEEE/EMBS Conference on Neural Engineering (NER)

- Enhanced model performance using statistical methods and **SMOTE** to address data imbalance, achieving a 32% increase in model accuracy in internal testing
- Applied **transfer learning** techniques, boosting classification accuracy from 43% to 75%

RELEVANT PROJECTS

AchieveIt: Android BucketList Tracker *(Kotlin, Room, SQLite, Coroutines)* Link — Fall 2024

- Implemented a relational **Room** database within **MVC** architecture for real-time **CRUD** operations
- Optimized app performance using **Kotlin coroutines** for concurrent data handling and complex **SQL** queries
- Leveraged **ViewModel** and **LiveData** for seamless data binding and lifecycle-aware UI updates

Bookstore Web Development *(HTML, CSS, React, TypeScript, Java Servlets, REST APIs)* Link — Aug. 2023 - Dec. 2023

- Developed a full-stack bookstore application using **Java** and **React**, integrating **SQL**, **Servlets**, and **RESTful APIs** for efficient inventory management
- Designed and deployed a scalable short URL system on **AWS**, leveraging **EC2**, **RDS**, **ELB**, and CI/CD workflows for high availability

River Crossing Game *(Java, JUnit, Swing)* Link — Fall 2023

- Designed and implemented modular game engines by extending an abstract engine, leveraging **OOP principles** like inheritance and polymorphism
- Refactored and optimized legacy code, including GUI components in **Java Swing**, ensuring scalability and maintainability while maintaining compatibility with existing functionality