

# SEAN BAILEY

(646) 344-2210 • Sean.Kuo.Work@gmail.com • github.com/SeanKuo7 • https://www.linkedin.com/in/seankuo7/

## SUMMARY

- 4 years of experience in e-commerce, distributed systems, microservices, telecommunications, and education.
- 40% reduction in voice recognition costs, saving \$144,000 annually.
- 40% increase in new business opportunities through a RESTful ToIP Text Service.
- 100% recovery rate for unanswered REST calls, reducing user call drops by 75%.
- 30% NLP improvement by enhanced voice command and exception handling.
- 30% increase in data retrieval accuracy with Regular Expressions.

## TECHNICAL SKILLS

**Programming Languages:** C++, Scala, Clojure, Python, Java, PostgreSQL, SQL, JSON, Shell, HTML

**Tools & Frameworks:** Linux, Git, Docker, RESTful API, Distributed Systems, Microservices, NLP, Azure, Google Cloud

## EXPERIENCE

Novo Labs Inc

Dallas, TX

**Software Engineer**

**Feb. 2021 – June 2023**

- Enhanced efficiency and customer satisfaction for 25+ franchises and **5000+** locations with an automated voice-based service for **20,000+** restaurant orders daily. Utilized **Scala**, **Clojure**, **Quill (for SQL)**, and **Circe (for JSON)**. Deployed on **GCP**, integrated voice recognition, synthesis, and **NLP** services from Microsoft **Azure**.
- Reduced voice recognition costs by **40%**, potentially saving **\$144,000** annually, by developing a new **RESTful** audio stream client for Speech Recognition Service on Microsoft **Azure**, using **Scala**.
- Developed a **RESTful** ToIP Text Service channel, resulting in a **40%** increase in new business opportunities, using **Scala**, **Twitter Finagle**, **SQL**, and **Circe**.
- Achieved a 100% recovery rate of unanswered **API** calls by developing a Retryable Filter for **RESTful** calls within the SMS client, using **Scala** and **Twitter Finagle**.
- Prevented 75% of user call drops by implementing an order resuming capability feature, using **Scala**, **SQL**, and **JSON**.
- Reduced response time by 50% with **load balancers** for voice synthesis, using **Scala** and **Twitter Finagle**.
- Developed a hash string generator to efficiently map orders and services, enabling shortened URLs payment application, using **Scala** and **SQL**.
- Lowered **NLP** failures by 30%, improved various voice command handling and enhanced exception handling using **Scala**, leveraging insights from error logs in **Datadog** and **Grafana**.
- Improved data retrieval accuracy by 30% for address parsing, using **Scala** and **Regex(Regular Expressions)**.
- Improved UI sections and implemented keyboard shortcuts for testing webpage UI, using **Clojure** and **HTML**. Achieved a 30% increase in testing efficiency.
- Managed **Kubernetes** cronjobs, optimized loading efficiency by **10%** through **YAML** and **JSON**.

CodePro Education

Taichung, TW

**Software Engineer**

**Dec. 2019 – Dec. 2020**

- Reduced assessment time by 75% and eliminated human assessment through an Online Judging system deployed on Microsoft **Azure**, using **Python**, **Django**, **PostgreSQL**, **redis** and **Linux Shell**.
- Saved 56 hours per week and reduced operational costs by 33% by automating **Docker** container processes using Linux **Shell** scripts.

Free5gc department of NCTU

Hsinchu, TW

**Back End Engineer**

**Jul. 2019 – Nov. 2019**

- Developed a verification system to validate JSON messages in 5G core network, reducing validation time by 70%, using **TTCN-3** and **C++**.
- Identified and resolved 15 critical issues in the 5G core network, using **Wireshark**, **C++**, **Postman**, and **CURL**.
- Enhanced AMF network function responsiveness by refactoring 1000+ lines of code, using a combination of **C** and **C++**.
- Reduced testing time by 50% with simplified Git usage and process launching using Linux **Shell** scripts and **MAKE** files.

Ministry of Transportation and Communications TW & NCTU

Taipei, TW

**Embedded System Engineer**

**June 2016 – Sep. 2016**

- Developed an embedded system for data reading from taxi meter, reducing data loss by 90%, using **Arduino** and **C++**.
- Developed a data retrieval system, improving data completeness by 95%, using **VBA**.
- My product was being produced 50+ times, collected and processed 10,000 GPS data points from 1000+ taxi.

## EDUCATION

**B.S., Computer Science** | National Chiao Tung University (NCTU)

Hsinchu, TW | **2018**