SEAN KUO SHANG-EN BAILEY

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CAREER OBJECTIVE

Results-driven software engineer with 4 years of experience in e-commerce, distributed systems, telecommunications, and education. Seeking a challenging mid-senior backend role at a forward-thinking team to apply my expertise in building scalable solutions and driving innovation. Committed to delivering measurable results and contributing to a dynamic engineering team.

PROFESSIONAL SUMMARY

- 4 years of experience as a software engineer with expertise in e-commerce, distributed systems, telecommunications, and education. Key achievements include:
- A 40% reduction in voice recognition costs, saving $144,000 annually.
- A 40% increase in new business opportunities through a RESTful ToIP Text Service.
- A 100% recovery rate for unanswered HTTP calls, reducing user call drops by 75%.

TECHNICAL SKILLS

Programming Languages: C++, Scala, Clojure, Python, Java, PostgreSQL, SQL, JSON, Shell, HTML
Tools & Frameworks: Linux, Git, Docker, RESTful API, Distributed Systems, Parallel Computing, NLP, Azure, GCP

EXPERIENCE

Novo Labs Inc — Dallas, TX
Software Engineer — ***Feb. 2021 – Jun. 2023***

- Enhanced efficiency and customer satisfaction for 25+ franchises and **5000+** locations with an automated voice-based service for **20,000+** restaurant orders per day. Used **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**.
- Generated a 40% increase in new business opportunities by implementing a **RESTful ToIP** Text Service channel for SMS communication 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**.
- Created a hash string generator to efficiently map orders and services, and enabling shortened URLs, using **Scala** and **SQL**.
- Reduced **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 **Regular Expressions**.
- Improved UI sections and created keyboard shortcuts with Clojure for testing webpage UI, using **Clojure** and **HTML**.
- Managed Kubernetes cronjobs and reduced manual deployments using **YAML** and **JSON**.

CodePro Education & Universities — 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** 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**.
- Improved 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 — ***Jun. 2016 – Sep. 2016***

- Developed a handheld embedded system for efficient execution and accurate data reading from taxi meter systems, reducing data loss by 90%, using **Arduino** and **C++**.
- Created a data retrieval system, improving data completeness by 95%, using **VBA**.

EDUCATION

B.S., Computer Science | National Chiao Tung University (NCTU) — Hsinchu, TW | ***2018***