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 HTTP 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, Taiwan
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, Taiwan
Backend 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, Taiwan
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, Taiwan