LU jiyan

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Experience

Microsoft, *Software Engineer 2*   *Mar 2021 - Present*
- Developing embedded **cross-device** experiences and **AI-Powered** applications
- **Spot Award** for excellent work performance in 2022
- **Shared Patent** Cross-Device Data Transfer Based On A Request-Responding Model (MS#412283-CN-NP) in 2022

Naturali - a startup, *Software Engineer*   *Aug 2018 - Feb 2021*
- Developed a customized **version control system** for a conversational ChatBots building platform, details in Projects
- **Data scraping**

Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, *Intern*   *Aug 2017 - Dec 2017*
- **Visualized** the distribution of mobile traffic within commercial areas and uncovered business insights via **data mining**

Physical Lab of Northwestern Polytechnical University, *Research Assistant*   *Feb 2017 - Jun 2017*
- Created **Matlab GUI** to support friendly user interaction for the program *Digital Holographic Interferometer for Acquiring 3D Dynamic Information*

New Oriental Education & Training, *Teaching Assistant*   *Jan 2017 - Mar 2017*
- Served as an teaching assistant of English training class in high school section
- **Best Creativity Award** for my work

Education

84/100	**B.S in Software Engineering**, *Northwestern Polytechnical University (NPU)* | Xi'an, China	*2014-18*
4.14/4.3	**Computer Science and Information Engineering**, *National Taiwan Normal University* | Taipei, Taiwan	*Feb - July 2016*
4/5	**Computer Science**, *University of Oulu* | Oulu, Finland	*Feb - Aug 2018*

COURSES: Computer Network | Network & Distributed Computing | Network & Information Security | Signal & System | Algorithm | Software Engineering | Computer Architecture | Software Architecture Design | Machine Learning(Coursera)

COMPETITIONS(Mathematical Contest in Modeling): The Meritorious Winner of NPU in 2015 | The **Outstanding Winner** of NPU in 2016 | The Honorable Mention of Shaanxi Province in 2016

PUBLICATIONS: Lu Jiyan, Panos Kostakos, Mourad Oussalah and Susanna Pirttikangas. ***SemanPhone: Combining Semantic and Phonetic Word Association in Verbal Learning Context*** 2018 **IEEE/ACM** International Conference on Advances in Social Networks Analysis and Mining (ASONAM). doi:10.1109/ASONAM.2018.8508827 in 2018

PROFESSIONAL DEVELOPMENT: *SICP:Sturcture and Interpretation of Computer Programs(1985),* this book fostered my ability to see boundaries in a system and recursively break it down to conquerable sub-systems. *Clean Architecture(2017), Clean Code(2008), Refactoring:Improving the Design of Existing Code(1999),* these books solidified my ability to design, implement and maintain clean programs.

Skills

Programming	C#, Golang, Python, C/C++, Kotlin, TypeScript/JavaScript, Java, Racket, HTML+CSS, Bash, Matlab, LaTex, SQL
Algorithm	Sorting(Merge|Quick|Heap), Binary Search, DFS, BFS, Dynamic Programming, Graphing(Dijkstra's|Bellman-Ford)
Tools	Git, Vim, CLI tools, Visual Studio, Android Studio, IntelliJ IDEA, Docker, Postman, Swagger, Wireshark, JMeter
Technologies	RESTful, Websocket, SignalR, WebRTC, gRPC, ASP.NET, Gin, Flask, React, Vue, MySQL, PostgreSQL, MongoDB, Azure

Projects

Embed Generative AI Capabilities into Android OS   *2023 - 2024*
Microsoft
- Goal: **Integrate generative AI capabilities into the Android** operating system.
- I engaged in the early-stage exploration of AI capability options, including self-designed orchestration, Microsoft Semantic Kernel, and Bing Chat Backend. This involved investigation of each framework and swift prototype implementation to expedite decision-making. Within our product development, I created **phone plugins** to assist users in managing contact information, devised a testing tool to streamline testing procedures and actively shared with the team to facilitate their onboarding process. Due to our close collaboration with **Bing Chat Backend**, some of my code on citation utilities and dynamic prompt leakage filtration was integrated into their system. This service supports Bing Chat and various co-pilot applications throughout Microsoft, impacting **millions of users** daily.

Messages in Microsoft Teams   *2022*
Microsoft
- Goal: Enable Microsoft Teams users to **send and receive SMS messages through the App** to their Android phones.
- I developed a **push API** that allowed phones to notify the Teams app about incoming SMS messages. This involved collaborating with various teams that owned different components. My responsibilities included defining and implementing the API, integrating external services, and managing changes in requirements through negotiation. Additionally, to address delays caused by partner teams, I temporarily simulated unfinished components using **Server-Sent Events**, which helped expedite feature testing.

Cross-Device Data Transfer   *2021 - 2022*

Microsoft

- Goal: Provide a set of **RESTful-style APIs that can be used to fetch device data** from anywhere.
- I played a major role in developing a crucial transport service for a **microservices architecture**. As part of this, I revised a **transportation protocol** between the transport service and LinkToWindows on phones. I analyzed new requirements for the LinkToWindows side and communicated with the cross-geographical team to ensure success. I implemented some layers and features of the protocol, such as continuous chunk responses, shared **connection management**. To enhance the service's concurrency, I delved into advanced C# **asynchronous programming** techniques. Lastly, I ensured good debuggability by defining reasonable and helpful telemetry events.

Conversational User Interface for Building Conversation ChatBot   *2019 - 2020*

OpenCUI

- Goal: Create **a platform and set of APIs that customer developers can use to build ChatBots**, and create a ChatBot community similar to GitHub.
- As a developer for the ChatBot building platform, I created a **version control system** in the backend service to enhance collaboration among customer developers. To enable submission of pull requests to the main ChatBot version for reviewing changes, I implemented **differentiating and merging** versions. To facilitate the importation of ChatBot components from public libraries, I implemented **referencing or forking** a ChatBot component. To accommodate the creation of template ChatBots for various languages, I implemented **partitioning and consolidating** language-specific and non-language-specific aspects of ChatBot development. To make an informed decision regarding the storage strategy, which significantly impacts the aforementioned implementations, I fully explored pros and cons of **full vs delta storage**, and adopted full storage for its better alignment with system usage patterns, which proved to be superior in terms of both development ease and overall performance ultimately.

Data Scraping   *2018*

OpenCUI

- Goal: Build **automatic pipeline** to collect **large volume** various types of data for model training purposes.
- Initially, I determined the data sources to gather based on the data requirements, e.g. QQ Music. Next, I analyzed the **XHR requests** made to the data source and customized a **Python web crawling** script to retrieve information. Also I maintained and improved performance of the overall scraping framework continuously.

Life

Bubble	Bubble is my one-year-old dog, a border collie. He's an adorable little guy. Typically, we go hiking together on weekends.
Hip-hop Dancing	I've been a casual learner for the past two years, consistently attending two to three sessions per week. I absolutely love this sport!
Traveling	I've traveled to numerous cities across China, such as Beijing, Shanghai, Guangzhou, Shenzhen, Xi'an and more. Outside of China, I've visited Finland, Denmark, Poland, Japan, Germany, and Vietnam.