

Shiyin (Sherilyn) WANG

Professional Software Developer & Previous Biomedical Data Mining Student Researcher

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WORK EXPERIENCE

Software Engineer, Android and Business Communications

Google

Aug 2020 - Now

Mountain View, US

- Maintain the first-party phone calling module in compliance with Android releases(e.g., Material You), carrier compliance, and OEM feature requests.
- Design and implement new features with Google's intelligent audio technology for advanced user experiences. 1 2 3 4
- Build a client error logging pipeline for metrics tracking and early-stage automatic outage alerting while complying with user privacy protection principles. Furthermore, with my statistics background, I designed novel methodologies to extract insights from logs and user feedback.

RESEARCH EXPERIENCE

Biological Network Analysis

Advisor: Russ B. Altman, Helix Group, Stanford University

Jul 2019 - Aug 2019

CA, USA

- Reviewed the usage of protein-protein interaction networks from a biologists' perspective.
- Also worked on drug synergy prediction by few-shot learning approach.

Disentangle Private Information from Edge-Cloud Training

Advisor: Song Han, HanLab, Massachusetts Institute of Technology(MIT)

Feb 2019 - May 2019

MA, USA

- Designed a differential privacy guaranteed framework for edge-cloud training with theory.
- Analyzed the trade-off between performance and privacy.

Complementary Learning for Named Entity Recognition

Advisor: Jiawei Han, Data Mining Group, University of Illinois at Urbana-Champaign(UIUC)

July 2018 - Sep 2018

IL, USA

- Named entity recognition on biological domain aggregating partially labeled datasets.
- Helped to improve the Set Search+ Oxygen demo for KDD 2018.

Fast Top-k Area Topics Extraction with Knowledge Base

Advisor: Jie Tang, Data Engineering Group, Tsinghua University

Jun 2017 - Sep 2017

Beijing, China

- Crawled data from Wikipedia and modeled relationships between categories.

PUBLICATIONS

- Liu Tianyun, Shiyin Wang, Michael Wornow, and Russ B. Altman. "Construction of disease-specific cytokine profiles by associating disease genes with immune responses." PLoS computational biology 18, no. 4 (2022): e1009497.
- Liu Danyang, Jianxun Lian, Shiyin Wang, Ying Qiao, Jiun-Hung Chen, Guangzhong Sun, and Xing Xie. "KRED: Knowledge-aware document representation for news recommendations." In Fourteenth ACM Conference on Recommender Systems, pp. 200-209. 2020.

COMMUNITY SERVICES

Hour Of Code Asia Project

Nov 2021 - Now

- With other Googlers, our goal is to utilize our strengths in computer science to open the mystery "coding" doors for children in Asia.

EDUCATION

Stanford University

Mar 2022 - Now

Advanced Software Systems Certificate, part-time non-degree

Courses: Program Analysis and Optimizations, Creating Customers for Life

Overall GPA: 4.0/4.0 (4 credits)

Tsinghua University

Aug 2016 - Jul 2020

Bachelor of Science in Computer Science and Technology (Yao Class)

Core Courses: Data Structure, Artificial Intelligence, Database, Numeric Analysis, Comp Biology, Advanced Network Security, Quant Econ, Game Theory, Comp Urban System Regulation, Quantum Computer Science, Operating System

Junior & Senior GPA: 3.9/4.0 (82 credits)

Overall GPA: 3.7/4.0 (208 credits)

Minor in Statistics

Core Courses: Inference, Linear Regression, Multivariate Stat, Bayesian Methods, Nonparametric Stat, Design and Analysis of Experiments

Overall GPA: 3.7/4.0 (25 credits)

- TopOpen Research Funding: Sponsorship for my summer internship at UIUC in 2018
- Xuetang Scholarship: 4 years
- Baidu Scholarship: For all-round development and comprehensive excellence in 2017 and 2018

Massachusetts Institute of Technology

Feb 2019 - May 2019

Electrical Engineering and Computer Science, Special Student Program (Exchange)

Courses: Inference and Information, Comp Bio, Automata Computability and Complexity

Overall GPA: 5.0/5.0 (48 units)

AWARDS

Global Competence Fellow 2019 - 2020

Tsinghua University

First-tier fellowship to 20 elites interested in global issues with adequate knowledge and negotiation skills.

Stanford UGVR Scholar 2019

Stanford University & Tsinghua University

For summer research internship in BioE Department. 18 scholars per year from China.

Mathematical Contest in Modeling Meritorious Winner 2017

Use circuit theories and software to model and optimize the traffic flow in Seattle innovatively.

PROJECT EXPERIENCE

My Fight with the COVID-19
Undergrad Thesis + Mental Health Volunteer + MIT COVID-19 Africa Hackathon.....
Jan 2020 – Jul 2019 Al Ain, UAE & Beijing, China

- Undergraduate Thesis: "Biomedical Causal Graph Construction by Single-Cell RNA Sequences and COVID-19 Literature" (A:4.0)

Blockchain Mobile Application for Clinical Records Management
Advisor: Leila Fayez Ismail, INDUCE Lab, United Arab Emirates University
Feb 2020 – Mar 2019 Al Ain, UAE

- Android (Kotlin) + Hyperledger

Computational Analysis of Chinese Government Reports
Advisor: Xiao Tang, School of Public Poligy and Management, Tsinghua University
Sep 2018 – Jan 2019 Beijing, China

- Crawled and constructed a dataset of 13148 government annual reports.
- Mined, constructed, and validated a hierarchical structural orgainzation of the reports.
- Refined LDA model to extract topics from texts and improved the algorithm efficiency.

Restaurant Management Application
Database Course Project in Tsinghua University
Nov 2018 – Dec 2018 Beijing, China

- Full-stack web application: HTML/CSS + Python Flask + Oracle

Emergency Room: Efficiency, Effectiveness, and Accessibility
MIT Policy Hackathon Organized by MIT IDSS
Apr 2019 MA, USA

- Emergency room policy design based on provided data in 24 hours as the group leader.
- Responsible for data analysis, data visualization, modeling, and report formatting.

LEADERSHIP AND ACTIVITIES

Deep Dive Program during the COVID-19 Crisis
Asian University Alliance | The United Arab Emirates University
Jan 2020 - Mar 2020 Al Ain, United Arab Emirates

- It was initially a 2-week cultural communication on behalf of Tsinghua University. After Covid-19 broke out, UAEU kindly invited me to extend my stay there as a visiting student.
- My visit then transformed into a deep dive into the Arab Emirates society. I acquired a better understanding of regional affairs by auditing local courses and communicating with students.

BRICS Youth Forum Delegate
All-China Youth Federation
Aug 2017 Beijing, China

- This is the highest level of youth official diplomatic event. I was selected as one of the China youth delegates.
- We negotiated a proposal that was submitted to the BRICS Leaders Xiamen Summit.

Field Study in Guiyang about Poverty and Big Data Industry
Guizhou-Cloud Big Data
Feb 2018 Guizhou, China

- Interviewed government leaders and investigated the rural areas and big data industry.
- Wrote a report to the the director of the Guizhou Big Data Development Administration.

Global South Culture Immersion Program Egypt
The American University in Cairo
Jan 2018 - Feb 2018 New Cairo, Egypt

- Studied two weeks in the American University in Cairo and visited historical sites.

LIFE PHILOSOPHY

"The future is today."

STRENGTHS

Algorithm and Optimization

Android Development Data Mining

Software Design Bioinformatics

Statistics Machine Learning

Java Kotlin C++ Python

International Relations Leadership

Public Speaking Global Perspective

SKILLS

Data Massive
Before college, I won many prizes in Math competitions, and I extended this passion with a Statistics minor. I learned almost every advanced graduate-level Statistics course offered in that program. At Google, I applied my Statistics background to the massive user feedback and developed novel methodologies to test whether there were outages. I also utilize my knowledge to make data-driven proposals for team directions. Although I always use non-parametric methods at Google, I still regard myself as a Bayesian!

Coding
I can write complex systems from scratch. With two years of experience, I am a professional in Java and Kotlin. I have worked on multiple complex projects, especially Android development and backend server logging. I have three years of student researcher experience with Python in data mining and computational biology at college. I used C++ for multiple course projects, such as Stochastic Progressive Photon Mapping at Computer Graphics.

Cross-Cultural Leadership
I developed my interest in international relations and development studies at college. I went to Egypt and the UAE to join winter camps hosted by local universities and traveled to many developing countries. I conducted a field study in Guizhou province for its big-data-empowered poverty alleviation. Google emphasizes citizenship and community contributions. I established an escape room club at the Beijing office to foster cross-team communications. I have been serving in Hour-Of-Code program as a marketing core team member.