

# XINYI XIANG

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University of Washington  
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## EDUCATION

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**B.S. University of Washington**, Statistics May 2022

**B.A. University of Washington**, Linguistics with Honors May 2022  
Concentrated track: Computational Linguistics

**Minor** in Mathematics

## RESEARCH EXPERIENCE

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My research includes implementing **mobile analytical units** on cognitive well-being, tracing cultural philological development with **natural language processing**, and performing complexity-reduced predictions for sustainable **system architecture design**. I am fortunate to work closely with colleagues in computer science, bioengineering, and linguistics, in addition to several outstanding clinical collaborators from University of Washington Medicine, College of Arts and Sciences, and Stanford Medical School.

Below are the research projects I have been directly involved in with author-level contributions.

### Mobile Analytical Units

**Cognistic: Neurological Degenerative Disease Detection** (Project Lead) 06/2019 - Present

- Implement Apple ResearchKit, CareKit for accessible trials in prevention for Parkinson's, dementia and ALS
- Design to analyze motion and gestures on mobile devices
- In collaboration with colleagues from Stanford Medical School and Google

**Feel Better: Intelligent Journal and Mood Tracking** (Project Lead) Sep 2019 - Present

- Implement Google Firebase, Azure object recognition and sentiment analysis
- Convert textual data to interpretable scales and reducing unclearness
- In collaboration with colleagues at UW Allen School of Computer Science

### Natural Language Processing

**UW Undergrad Research Assistant**

10/2020 - Present

Linguistics Importance in Cognitive Development Analysis on Post-War Taiwanese Children  
Mentor: Jing Xu

- Design algorithms for natural language topic modelling in bilingual corpora
- Approach statistically on cognition reflective psycholinguistic pragmatics
- Collaborate with colleagues from UW Allen School of Computer Science

## System Architecture Design

**University of Texas Health School Research Assistant** 03/2020 - 09/2020  
UT Health Science Center

- Design algorithm for generate time series analysis with Recurrent Neural Networks
- Build economic optimization models taking consideration of SARS-CoV-2 influences
- Incorporate graphical data filtration and model selection with Swift

**Tsinghua Tongfang Metadata Center** 06/2019 - 09/2019  
**Algorithm Engineer**

Real-time Traffic Congestion Detection with SIGHTA Regression Network

- Create automated system for differentiating labelled/unlabelled image data
- Fine-tuning model with Tensorflow, Caffe and Residue-Network
- Revise IEEE presentation and improve communication precision

## HONORS AND AWARDS

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**Google COVID-19 Research Fund** 2020  
Cognistic(previously TrialX): A neurodegenerative disease prevention app

**Stanford Biodesign Best App** 2020

**Microsoft Imagine Cup Semi-Finalist** 2019  
Feel Better: A smart journal which tracks emotional fluctuation

**AP Scholar with Distinction Award** 2019  
Granted to students who receive an average score of at least 3.5 on all AP Exams taken, and scores of 3 or higher on five or more of these exams.

**Excellence in Statistics** 2019  
Awarded one out of the Class of 19'

**Washington and Lee University Alumni Book Award** 2018  
Awarded one out of the Class

## PRESENTATIONS AND INVITED LECTURES

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*In preparation*

**Brown University Institute for Computational and Experimental Research in Mathematics,**  
“Applications of Rough Paths: Computational Signatures and Data Science” 2021

*Presented sessions*

**Google Demo Day**, “Neurodegenerative Disease Prevention Detection Application” 2021

**DubHacks**, “Data and ML with BigQuery”, in affiliation with Google Developers 2020

**Google Developer Student Clubs**, “Git Command Logics and CLI Applications” 2020

**Mobile Development Club**, “Projected Values and Binding Property Wrapper” 2020

## LANGUAGES

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**Mandarin Chinese**: Native Language

**English**: Fluent Speaker, Listener, Reader and Writer

**French**: Intermediate Listener, Intermediate Speaker, Advanced Reading and Writing

**Japanese**: Novice Listener, Intermediate Speaker, Advanced Reading and Writing

## COMPUTER SKILLS

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*Ordered by familiarity*

**Programming**: Java, Python, C/C++, Swift, Assembly, Clojure

**Applications**: MATLAB, R Studio, XCode

**Platforms**: Git, LaTeX, Linux, Tensorflow, Caffe

## PROFESSIONAL AFFILIATIONS

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**Google Developer Student Clubs** 07/2020-Present  
Lead at University of Washington

**Google Women Techmaker** 08/2020-Present  
Ambassador and Local Director in Pacific Northwest

**Mobile Development Club at UW** 09/2019-Present  
Co-Founder and Lead of Project Management

## PROFESSIONAL SERVICE

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**Symposium Co-Organizer**  
TechX Academy Deep Learning Course, Shanghai, 2019 - 2020

TechX Academy Sound Production Workshop, Shanghai, 2019 - 2020

**Peer-Reviewed Publications:**

[1] 2019 IEEE ICEIEC Real-time Traffic Congestion Detection with SIGHTA Regression Network.

## **OTHER**

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Host and Broadcast: Hua Voice Under Student Publication Department at UW

Citizenship: People's Republic of China