# XIANG JI

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## EXPERIENCE

**GOOGLE** — **ENGINEERING MANAGER / SENIOR SOFTWARE ENGINEER**

2017 - Present

**Eng Manager / Tech Lead**, Google Health Data Labeling Platform

- Grew from zero to 10+ SWEs, serving health data labeling needs for 10+ teams across Google / Alphabet
- Generated xxM labels with xxxK labeling hours from graders across the globe
- Unblocked xx critical launches and xx publications on Nature, Lancet, JAMA, etc.

2014 - 2017

**Eng lead**, Actions On Google (AoG) Console backend

- AoG is the third party developer platform for Google Assistant
- Led the effort from the ground up to the first launch

**Eng lead**, Firebase Console backend

- Firebase is Google's flagship offering for app development
- Led the effort from the ground up to the first launch

**TWITTER** — **INTERN, SOFTWARE ENGINEERING**

2013

Designed and implemented a tweet recommendation service

- Utilized content-boosted collaborative filtering with random walk model on Hadoop / Storm

**HULU** — **INTERN, SOFTWARE ENGINEERING IN TEST**

2010

Developed recommendation system unit tests in Ruby & Java

## EDUCATION

**CANADA** — **UNIVERSITY OF WATERLOO**

2012 - 2014

**Master of Mathematics**, Computer Science
**Thesis:** Path Integration with Velocity-Controlled Oscillators
**Relevant courses:** Computational Neuroscience, Applied Machine Learning, Probabilistic Inference and Machine Learning

2011 - 2012

**Exchange Student**, Computer Science

**Thesis:** Hippocampus Modeling on Spatial Alternation Task
**Relevant courses:** User Interfaces, Machine Learning, Algorithms, Computer Vision

**CHINA** **TSINGHUA UNIVERSITY**

2008 - 2012 **Bachelor of Engineering**, Computer Science and Technology
**Relevant courses:** Artificial Intelligence, Operating System, Network, Computer Architecture, Data Structures

## PUBLICATIONS

**COMPUTATIONAL NEUROSCIENCE**

**X. Ji**, S. Kushagra, J. Orchard, "Updating the Entorhinal Cortex Fourier Model with Visual-Sensory Input", *Canadian Conference on Artificial Intelligence (AI) 2013*.

J. Orchard, H Yang, **X. Ji**, "Does the Entorhinal Cortex use the Fourier Transform?", *Canadian Conference on Artificial Intelligence (AI) 2013*.

**COGNITIVE NEUROSCIENCE**

B. Liu, G. Wu, Z. Wang, **X. Ji**, "Semantic integration of differently asynchronous audio-visual information in videos of real-world events in cognitive processing: An ERP study", *Neuroscience Letters, July 2011*.

## PROJECTS

**COMPUTATIONAL NEUROSCIENCE**

**Modeling Path Integration Using Velocity Controlled Oscillators**

- Simulated rat's hippocampus using ~50,000 virtual neurons
- Built a virtual rat that is able to navigate in a 2D space
- Included stabilizing mechanisms and sensory inputs

**MACHINE LEARNING**

**Multi-level Position Reconstruction from Hippocampal Place Cells**

- Implemented Bayesian networks on ~20GB neural data
- Designed multiple feature levels for faster and more accurate learning
- Average error reduced to 1/3 of previous results

**Private Learning with Homomorphic Encryption**

- Reviewed different private machine learning approaches
- Discussed the difference of schemes and algorithms
- Evaluated algorithm efficiency based on feature amount and data size

## QUALIFICATIONS

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|---|---|
| **EXPERTISE** | Full stack development with backend specialty<br>Team lead of 10+ engineers<br>Industrial experience in healthcare + tech<br>Computational neuroscience |
| **PROGRAMMING LANGUAGES** | Java, Python, C++, JavaScript, TypeScript |

*Last update: 2021-10-08*