

Xinyuan (Henry) Li

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Education

Johns Hopkins Whiting School of Engineering

Baltimore, Maryland

MSE in Computer Science

2021–2022(projected)

Focus on language and speech processing. Course highlights : Natural Language Processing, Machine Translation, Speech and Auditory Processing, Phonology

University of Oxford

Oxford, United Kingdom

BA Mathematics and Computer Science

2016–2019

Course highlights : Computer Architecture, Machine Learning, Databases, Artificial Intelligence, Functional Programming, Topology and Groups, Algebraic Number Theory, Galois Theory, Linear Algebra

Experience

Work Experience

Graduate Research Student with Prof. Hynek Hermansky

Baltimore, Maryland

Johns Hopkins University Center for Language and Speech Processing

Sep. 2021–Present

- Primary focus of the lab is Automatic Speech Recognition. My work has been on addressing the problem of catastrophic forgetting, an problem that is common to neural models that are trained domain-incrementally, or time-incrementally.
- Current project : Elastic Weight Consolidation for Continual Learning in Automatic Speech Recognition.
- Planned projects : Knowledge Distillation in ASR ; End-to-end generation of speech with different noise types and levels ; Exploring alternative non-Euclidean word embeddings and their effects on machine translation ; Study attention patterns in attention-based neural ASR.

Web Developer (Part time)

Remote

Oxford Global Education Development Ltd.

Jan. 2021–Present

- Full-stack development of Oxford Global Model United Nations application portal : <https://apply.oxfordglobal.org/landing>
- Worked closely with conference organisers and potential clients on improving UI and user experience.

Architecture Intern

Shanghai, China

NVIDIA

Oct. 2019–Jan. 2021

- Took part in the development and maintenance of deep learning acceleration kernel library.
- Was part of the team that went through the full development cycle of a new version of the said library. Implemented important functionalities as well as quality-of-life improvements.
- Developed and maintained testing infrastructure for evaluating above-mentioned library. Participated in the design of CI/CD flow of the project.

Quantitative Analyst Intern

Shanghai, China

Haitong Securities

Jul. 2019–Sep. 2019

- Developed and automated quantitative analysis tools.

Web Developer (Part time)

Oxford, United Kingdom

Oxford Educational Cloud

Feb. 2017–Nov. 2017

- Launched the website of the education technology start-up.
- Wrote articles and provided counselling on the topic of applying to universities in the UK and in the US.

Teaching Assistant, English class for kids aged 3-6

Shanghai, China

EF Shanghai

Jun. 2013–Sep. 2014

- Focused on teaching basic English phonetics and simple vocabulary.
- Gained some early insights on language acquisition.

Other

Director General

Oxford, United Kingdom

Oxford Global Education Development Ltd.

Feb. 2019–Dec. 2019

- Part of the executive committee at Oxford Global in charge of making strategic decisions for the organisation, overseeing the budget, and coordinating international events.

Seminar TA

Shanghai, China

Harvard Summit for Young Leaders in China

Aug. 2018

- TA for Introduction to Topology. Students were aged 14-18 with varying mathematical backgrounds.

Volunteer

Los Angeles, United States

Special Olympics World Games 2015

Aug. 2015

Projects

Elastic Weight Consolidation for Continual Learning in Automatic Speech Recognition

JHU CLSP

Preliminary results show that EWC can effectively address catastrophic forgetting

Sep. 2021–Present

Multi Politeness-domain Neural Machine Translation for Japanese and Korean

JHU, Term Paper

Jointly trained on politeness domain identification and translation

Nov. 2021–Present

The Phonology of consonant voicing in Shanghainese

JHU, Term Paper

Waveform study; perception study

May. 2021

Approximate solutions for the Multi-Commodity Flow problem : a survey

JHU, Term Paper

Interior point algorithms; Subproblems of general MCF; MCF in special graphs; Rounding techniques

May. 2021

Scriptable racing simulator

Oxford, Group Project

Unity-powered racing game with Python API

May. 2017

Programming background

Python : Highly proficient

package highlights : pandas, numpy, tensorflow, pytorch

C++ : Highly proficient

highlights : CUDA, Jinja

Other programming languages : Java, Javascript, Angular, Matlab, C, X86, Scala, Haskell, SQL, Perl, bash

Notable projects, past and present :

- JHU marketplace : buy/sell/rent marketplace webapp for JHU students
- News-api : keyword-based news crawling and curating script
- Voice and background music-control rave goggles : entry to Oxford Hack 2018
- Landscape, transportation and trade simulator : personal project on github

Languages

Chinese(Mandarin), Chinese(Shanghainese) : Native

English, French : Fluent(speaking, reading, writing)

Italian, Arabic : Basic(speaking, reading, writing)

Awards

- Best Floor Speech, Emergency Debate at the Oxford Union, Feb. 2018
- Finalist(Highest achievable award), Oxford Hack, Nov. 2018