

# Ethan Chau

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## Experience

### University of Washington | NLP Researcher

Mar. 2018 – Present | Seattle, WA | Advisor: Prof. Noah A. Smith

- Leading the design of informed training methods for **low-resource** contextual word **representation**, with up to **39%** error reduction on parsing evaluations [1]

### University of Washington | Teaching Assistant (ML, NLP)

Jan. 2019 – Mar. 2019 and Sept. 2020 – Present | Seattle, WA

- Developed a new **PyTorch**- and **AllenNLP**-based text classification assignment
- Published a comprehensive, **officially featured** tutorial for AllenNLP ([link](#))

### Facebook | Software Engineering Intern (Machine Learning)

Jun. 2020 – Sept. 2020 | Seattle, WA

- Drove the development of a configurable, E2E system for content **retrieval** and recommendation in **C++** and **Hack**, increasing engagement by **2.5%**
- Designed efficient data-collection pipelines for **search index** construction
- Investigated **ML** algorithms for content representation and achieved **75%** average error reduction
- Contributed to the **PyTorch** open-source project
- Achieved highest possible rating ("**Rockstar**") in final performance evaluation

### Facebook | Software Engineering Intern (Backend)

Jun. 2019 – Sept. 2019 | Menlo Park, CA

- Architected a modular, interpretable, and configurable suggestion system in **Hack** with a **37%** higher success rate than previous versions
- Engineered **ML** features that achieved **80%** accuracy and F1 on the task
- Developed a multi-stage model training pipeline tailored to the application

### Indeed.com | Software Engineering Intern (Backend/Data)

Jun. 2018 – Aug. 2018 | Seattle, WA

- Integrated an **NLP** library into a suggestion service, yielding **6x** the number of acceptances and reaching **2x** as many users as the next best source
- Designed and built a **Java-Protobuf** service for machine learning evaluation

### Indeed.com | Software Engineering Intern (Full Stack)

Jun. 2017 – Sept. 2017 | Seattle, WA

- Built and stylized a custom **React** frontend to minimize server load
- Implemented an extensible **Java** data storage and retrieval model

## Publications

[1] **Ethan C. Chau**, Lucy H. Lin, and Noah A. Smith. 2020. Parsing with Multilingual BERT, a Small Corpus, and a Small Treebank. In *Findings of EMNLP*. ([link](#))

## Projects

### Where's My Bus? | Full-Stack Web App

- A lightweight transit tracker for the Seattle area ([link](#))
- Technologies: **Azure App Service, Brunch, Python, React**

### echau18.gitlab.io | Personal Portfolio

- A configuration-driven personal portfolio generator ([link](#))
- Technologies: **React, SCSS**

## Community Involvement

### Evangelical Chinese Church | Taiwan/AWANA Youth Leader

Sept. 2013 – Sept. 2018 | Redmond, WA and New Taipei City, Taiwan

- Planned and taught daily English classes to 20+ under-resourced youth
- Supervised and **mentored** incoming youth leaders

## Education

### University of Washington

M.S., Computer Science

Sept. 2020 – Jun. 2021 | Seattle, WA

Thesis: *Specializing Multilingual Language Models: An Empirical Study*

GPA: 4.00

B.S. with Distinction,

Computer Science (Data Science)

B.A., Linguistics

Sept. 2016 – Jun. 2020 | Seattle, WA

Thesis: *Towards Resource-Efficient Contextual Word Representations for Parsing*

GPA: 3.98 (CS), 3.98 (Linguistics)

### Swiss Federal Institute of Technology (ETH)

Exchange Student, Computer Science

Sept. 2019 – Feb. 2020 | Zürich, CH

## Coursework

Natural Language Processing

NLP Capstone

Advanced Machine Learning

Artificial Intelligence

Reliable and Interpretable AI

Generative Models • Graphical Models

Information Retrieval

Quantum Computing

Data Structures • Algorithms

Operating Systems • Security

## Skills

### Programming

Proficient

Java, JavaScript, Python

Familiar

Bash, C, C++, C#, Google Protobuf, Hack, HTML/CSS, Ruby, SCSS, SQL, Thrift

### Technologies

AllenNLP, Git, Mercurial, NumPy, PyTorch, React.js, Spring Framework

### Languages

English (Native), Mandarin (Fluent),

Cantonese (Proficient), Spanish

(Intermediate), German (Beginner)

## Leadership

### Common Ground Fellowship

Discussion Leader

Jun. 2020 – Present

Core Team Leader

Aug. 2017 – Aug. 2018