

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 model training methods for **low-resource** contextual word **representation**, with up to **39%** relative error reduction on parsing evaluations

Facebook | Machine Learning Engineering Intern

Jun. 2020 – Sep. 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 a **75%** average relative error reduction
- Contributed to the **PyTorch** open-source project

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

University of Washington | Teaching Assistant (NLP)

Jan. 2019 – Mar. 2019 | Seattle, WA | Instructor: Prof. Noah A. Smith

- Developed a new **PyTorch**- and **AllenNLP**-based text classification assignment
- Planned and **led** a weekly discussion section and office hours for 35 students
- Published a comprehensive, **officially featured** tutorial for AllenNLP ([link](#))

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

Jun. 2018 – Aug. 2018 | Seattle, WA

- Integrated an **NLP** library into a suggestion service and developed a text extraction-based heuristic, yielding **6x** the number of acceptances and reaching **2x** as many users as the next best source
- Architected and developed a **Java-Protobuf** service for machine learning evaluation that decreased required requests by **5x**

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

Projects

AllenNLP-xta | Machine Learning Library

- A port of the AllenNLP library for NLP development, with TPU support ([link](#))
- Technologies: **Python**, **PyTorch**

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

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

Community Involvement

Evangelical Chinese Church | Taiwan/AWANA Youth Leader

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

- Designed** and taught daily English classes to 20+ under-resourced youth
- Facilitated** daily re-evaluations of content and methods with fellow teachers
- Supervised and **mentored** incoming youth leaders

Education

University of Washington

M.S., Computer Science

Expected Jun. 2021 | Seattle, WA

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: 3.97 (CS), 3.98 (Linguistics)

Swiss Federal Institute of Technology (ETH)

Exchange Student, Computer Science

Sept. 2019 – Feb. 2020 | Zürich, CH

Coursework

Natural Language Processing

Advanced NLP • NLP Capstone

Artificial Intelligence

Reliable and Interpretable AI

Advanced Machine Learning

Information Retrieval

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