

# JAKE UNDERLAND

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*Looking for full-time and internship opportunities in data science, software engineering, and related fields.*

## EDUCATION

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### University of Chicago (GPA 3.93/4)

September 2020 - July 2021

- International Student-at-Large
- Led research team of undergraduates analyzing the efficacy of educational policies in the US.
- Relevant Courses: Abstract Linear Algebra, Statistical Theory and Methods I & II (Frequentist and Bayesian inference, regression theory), Micro and Macro (Neoclassical growth model), Econometrics, Computer Science with Applications I, II & III.

### Waseda University - School of Political Science and Economics (GPA 3.7/4)

April 2019 - March 2023

- [Global Leadership Fellows' Program](#) fellow
- Conducting research under [Professor Hoshino](#) on applications of machine learning in economics, under [Professor Tanaka](#) on statistical and econometric theory.
- Relevant courses: Mathematical Analysis, Game Theory, Dynamic Models (Macro), Optimization, Algorithms, Public Economics.

## WORK EXPERIENCE

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### CreateBase [\[link\]](#)

Jun 2021 - Present

Full stack Developer Intern

- Developed web application *Chinascope* in PHP+Laravel framework.
- Developed logging infrastructure for unmanned workstations, incorporated image recognition to improve accuracy of logging system.

### Bank of Japan

Sep 2021 - Oct 2021

IT Department 2-Day Summer Internship

- Participated in workshop debating the installment of a Central Bank Digital Currency (CBDC) in Japan.

### Morgan Stanley

Aug 2021

IT + Firmwide Summer Insights Programs

### CATAL English School [\[link\]](#)

2020 - Present

### Private Tutor/Translator

2019 - Present

## EXTRA CURRICULAR

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### Google Developer Students Club [\[link\]](#)

September 2021 - Present

Backend Lead

- Leading a team of 20+ engineers
- Improved coding efficiency by creating specializations within Backend Team and distributing code reviews based on specializations.

### Catholic Commission of Japan for Migrants, Refugees and People on the Move [\[link\]](#)

2015 - Present

Caretaker, Educator, Translator

### Himawari Children's Group [\[link\]](#)

2019 - 2020

Caretaker for children with special needs

## CERTIFICATES

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- Japan Statistical Society Certificate Level 3, Best Grade, 2019
- Waseda University Arai Takanobu Scholarship

## SKILLS

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**Languages:** Japanese (Native), English (Native)  
**Computer Languages:** Python, PHP, R, C, SQL  
**Software & Tools:** **Backend:** Python+Django, PHP+Laravel  
**Data Science:** R+Rstudio, Pandas, NumPy, Matplotlib, Scikit-learn.  
**Others:** Docker, Heroku

## PROJECTS

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### Course Search Engine for University of Chicago

- Linked [here](#).
- Crawled web for course information.
- Included distance between buildings and time to travel between buildings as feature.

### Bike Share Station Prediction - Gradient Boosting

- Linked [here](#).
- Used gradient-boosting to predict number of available bikes at given bikeshare station at given time.

### Vaccine Reservation RPA

- Linked [here](#).
- Used Selenium to automate vaccine reservation process of Japan's Ootemachi mass vaccination center.
- Helped many busy youth procure a vaccine reservation during the height of Japan's Covid-19 pandemic.

### Original Hash Table and Markov Model for Speaker Attribution

- Linked [here](#).
- Designed an implementation of a hash table on Python using association lists.
- Used Markov Model for speaker identification software.

### Game Theory Iterative Elimination Program

- Linked [here](#).
- Useful tool for reducing games by eliminating dominated strategies. Basic Game Theory.

### Educational Policy Analysis Software

- Linked [here](#).
- Crawled web for US educational policy software

### MapReduce for Whitehouse

- Linked [here](#).
- Used mrjob to employ MapReduce for large data analysis.

### Econometrics Coursework

- Linked [here](#).
- Proofs.

### Policy Analysis Coursework

- [Differences-in-Differences](#) and [IV estimation of LATE](#).

### Real Analysis Coursework

- Linked [here](#).
- Proofs.