

Seiji M. Sakurai

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Skills

- **Languages:** Python · SQL · Javascript · HTML/CSS · Racket/Scheme
- **Frameworks:** Scipy · Numpy · Pandas · OpenCV · Scikit-Learn · Matplotlib

Experience

National Graduate Institute for Policy Studies

Research Assistant

Tokyo, Japan

July 2018 – August 2018

- Created program that compiles annual scientific research meta-data related to Japan
- Processed 30+ GB of data related to higher education using Pandas and Numpy
- Presented research findings to education and science policy researchers
- Created new dataset that allows micro and macro analysis of scientific research output in Japan

AlpacaAI

Software Engineer

Kobe, Japan

May 2016 – August 2016

- Implemented Deep Q-Learning using NumPy and Theano under the direction of the CTO
- Investigated the algorithm's performance in time series pattern recognition in Foreign Exchange
- My research was used in the creation of the company's new product that detected FX trading patterns

Projects

Patient fMRI Classification

- Programmed a XGBoost random forest to classify schizophrenia patients through modal fMRI data
- My research successfully improved algorithm precision and accuracy by 8% than previous academic study
- The algorithm also identified potential regions of the brain that may function as biomarkers for schizophrenia.

Classification of Un-Detonated Explosives Using Aerial Photography

- Created a machine learning algorithm that uses photos from World War II to classify an area is likely to contain un-detonated explosives
- Created training data by using OpenCV's filters to identify bomb craters in photos
- Hand classified the 1750+ images used to train the algorithm.

Stamp Rally Web App to Promote Tourism

- Made a web app using CakePHP to promote tourism in a city that was effected by the 2011 earthquake
- Worked with local government to conceptualize and design the application
- Used Google Maps API to gamify touring the city by detecting the proximity of tourists to the landmark

Recognition

- **Awards:** GENIUS Science Olympiad (International) - Finalist for Environmental Science Category
Japan Science and Engineering Challenge (National/ISEF Qualifier) - Semi-finalist
Local Innovation Competition - Corporate Award
- **Certification:** Coursera - Data Scientist's Toolbox · R Programming · Regression Models

Education

University of Waterloo

Waterloo, ON

Candidate for Bachelor of Mathematics in Honours Mathematics

September 2018 – February 2023