

Ayrton San Joaquin

RESEARCH ASSISTANT, COMPUTATIONAL BIOLOGY &
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Education

Bachelor of Science (Honors)

Data Science

Yale-NUS College 2018 – 2022

Projects

ScobraPy Packaging and Maintenance

Sep 2018 – Present Research

<https://pypi.org/project/scobra/>

I packaged and currently maintain a stable version on the Python Package Index (PyPI).

Intelligent Spongebob Script Generator

Aug 2019 – Sep 2019

Natural Language Processing (NLP)

<https://ajsanjoaquin.github.io/spongebobNLP/>

I fine-tuned a GPT-2 Transformer Model (117 million parameters) and turned it into a Docker container and uploaded it via Google Cloud-Run as the model's server while using Github Pages to host the application's website.

Neuontobotrys Tarapacana (NTARA) Model

Jun 2019 – Aug 2019 Plant Metabolic Modelling

<https://github.com/ajsanjoaquin/ntara>

I used Flux Balance Analysis (FBA) to test the integrity of added reactions to the NTARA model. I created reusable functions for future research, while providing docstrings for documentation.

Pneumothorax Classifier

Jul 2019 Computer Vision

<https://github.com/ajsanjoaquin/Pneumothorax>

I made an image classifier pre-trained on a Resnet 50 Convolutional Neural Network (CNN) to detect Pneumothorax (collapsed lung) on x-ray scans. This was built in two days for the NUS-MIT Datathon. I fine-tuned the parameters using approximately 11,000 x-ray images.

Applica Sko!

Feb 2018 Work / Outreach

<http://skoapplica.herokuapp.com/>

Sko! is a free scholarship database for full-time undergraduate and graduate students with a pilot test on University of the Philippines- Diliman. The database compiles a list from official sources and user-submitted information.

Experience

Student Associate - Computational Biology Yale-NUS College

Sep 2018 – Present Singapore

- Upgrade and maintain scobraPy, a modified version of the cobraPy module for plant metabolic modelling, from Python 2.7 to Python 3. Write documentation and perform functional testing and unit testing.

Student Associate - Neuroscience Yale-NUS College

Jan 2020 – Present Singapore

- Create an application for speech analysis samples using Dynamic Time Warping.

Chief Executive Officer Applica Data Services Inc.

Jun 2017 – Apr 2018

NCR - National Capital Region, Philippines

- Led a team to manage Applica, a centralized platform that allows people to apply to universities online in the Philippines. It is designated as a Harvard Social Innovation Collaborative Global Trailblazer.

- Cold called colleges and universities across the country and promptly underwent contract negotiations with 2 schools.

- Oversaw about 200 unique applications for the 2017-2018 Admissions Cycle, approximately a 400% increase from last year's cycle

Certification

Machine Learning

Jul 2019 Coursera

Credential ID: WFK75DQC9N5Q

[Verification Link](#)

Publications

"Three Things I learned from Creating Fake Faces using A.I.", *The Startup* (Jan 2020) [Link](#)

"Creating A Radiologist from Scratch", *Towards Data Science* (Jul 2019) [Link](#)

Skills

Programming in Python (NumPy, Pandas, Pytorch, ScobraPy),
Data Handling (MS Excel, SQL),
Software Development (Git, Docker),
Project Management (Trello, Slack),
Pitching (Cold-emailing, Streak),
Technical Writing (LaTeX)

Languages

English Native

Filipino Native