William Frederic O. Wells
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Education

University of the Philippines Diliman — Philippines
BS Computer Science — *2019 - 2023*
GPA: 3.83 (GWA: 1.11) Summa cum Laude standing

Experience

University of the Philippines Diliman
Computer Programmer III — *Jan. 2021 – Present*

- Maintaining and upgrading UVLê – UPD's LMS handling 10,000+ users
- Working with industry-scale databases (LDAP and PostgreSQL)
- Performing cloud infrastructure and system maintenance
- Working in a team of 5

Thinking Machines Data Science Inc.
Machine Learning Engineer Intern — *June 2022 – Aug. 2022*

- Built a cloud-ready Detectron2 boilerplate for model training, evaluation, and demonstration
- Fine-tuned Detectron2 models to perform well on the UA-DETRAC dataset
- Created a dataset of articles by historically scraping several news and newsletter sites
- Conducted an exploratory project for classifying articles into custom tags using various NLP methods

Thinking Machines Data Science Inc.
Data Engineer Intern — *June 2021 – Aug. 2021*

- Built Dagster pipelines for transferring client data to GCP
- Deployed Dagster pipelines to GCP
- Built an extensive API for manipulating aggregated single-customer view data stored in GCP
- Worked with various teams with sizes ranging from 3-10

Projects

Basic HotStuff (BHS) in Private Ethereum | *Go*

- Implemented an alternative consensus algorithm (BHS) that sends much less data at scale for the open-source GoQuorum project (4.5k stars)
- Built for a conference paper as part of my undergraduate thesis

Resource-efficient Connect Four Agents | *C++*

- Built an intelligent connect four agent using a from-scratch performant and resource-aware implementation of the Monte-Carlo Tree Search (MCTS) algorithm

CrowNNs: Tree Crown Detection using FCOS | *PyTorch*

- Extends the DeepForest library to accommodate other pre-trained object detection models.
- Fine-tuned and evaluated a pre-trained FCOS model on the NEON Tree Crowns dataset

LPRNet Keras Implementation | *Keras*

- LPRNet is a neural net for license-plate recognition on small devices
- Trained on CCPD2019 - a dataset of 200,000 Chinese license plates
- Built as a supplement to Hands-on Machine Learning and Deep Learning with Python

Root-finding Solution to Lotka-Volterra Predator-Prey Model | *NumPy, Matplotlib*

Simulation of Halley's Comet using Runge-Kutta | *NumPy, Matplotlib*

Flood Damages Dashboard | *Python, OpenStreetMap, QGIS*

- NASA Space Apps 2020 Submission
- Used QGIS to convert Metro Manila city boundaries into GeoJSON and intersect boundaries with another map
- Pooled and cleaned data from JAXA GSMaP (HDF5), NASA EONET (JSON), PhilGIS, and LiPAD (.gpkg)
- Created Python/Pandas script to scrape hourly PAG-ASA Rainfall and Water Level data since 2012

Service

Google Developer Student Clubs Diliman
Chief Technology Officer *August 2021 – August 2022*

- Led a department of 35 developers working on internal projects
- Oversaw internal projects such as the organization's website

Technical Skills

Languages: Python, C/C++
Frameworks: PyTorch, NumPy, Matplotlib
Tools: Git, AWS, GCP, Docker
OS: Linux, Windows