Tokyo, Japan
https://github.com/reiinakano

REIICHIRO S. NAKANO

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EMPLOYMENT

Software Engineer **Infostellar, Inc.** **December 2017-present**

- Designed and implemented the cache data structure for the ground station component of Infostellar's cloud platform, StellarStation.

Data Scientist/Software Engineer **Adatos** **October 2016-November 2017**

- Designed and wrote the backend software of Adatos' core cloud products from scratch, developing our own automated machine learning techniques for credit scoring in the process. Tools used: Flask, Celery, Redis
- Set up and ran Spark on AWS EMR to perform preprocessing and clustering for micro-segmentation on 1000+ GB of client data.
- Used Tensorflow to build and validate a deep neural network for identification of tuberculosis signs in Chest X-ray images. Used transfer learning on a public dataset of only 660 images and increased sensitivity to 100% while keeping specificity at 80%.
- Used NLTK and Flask to build a small demo web server showcasing Adatos sentiment analysis capabilities.

OPEN SOURCE SOFTWARE CONTRIBUTIONS

- **Xcessiv** (2017, *personal project*). Creator of a web-based tool for use in automated hyperparameter search and stacked ensembling. Mentioned by Kaggle on Twitter and LinkedIn. Currently has 900+ stars on Github. Python, ReactJS, https://github.com/reiinakano/xcessiv
- **Scikit-plot** (2017*, personal project*). Creator of a small open-source library that adds plotting functionality to scikit-learn objects in an effort to make visualization in common data science tasks a lot easier and more intuitive. Currently has 1K+ stars on Github. Python, https://github.com/reiinakano/scikit-plot
- **Fast Style Transfer Demo** (2017, *personal project).* Built a demo implementation of Fast Neural Style Transfer running purely in-browser using Google's deeplearn.js library. Has been ported to the official deeplearn.js repository. 1K+ stars on Github. Javascript, https://github.com/reiinakano/fast-style-transfer-deeplearnjs
- **GAN Playground** (2017, *personal project).* Built a demo allowing training of Generative Adversarial Networks on toy datasets in the browser. 200+ stars on Github. Javascript, https://github.com/reiinakano/gan-playground
- **Open-source software contributions to major libraries: *scikit-learn****:*** Fixed a software regression in the v0.19 release***; deeplearn.js***: Implemented various CPU and GPU matrix operations in the library; ***mlxtend****:* Wrote implementation and unit tests of a stacked generalization ensemble classifier***; Keras****:* Extended Keras classifier's scikit-learn wrapper to handle string classes. Minor contributions: ***Kube-AWS****:* Documentation fix.

EDUCATION

Manila, Philippines **De La Salle University-Manila** **2011 – October 2016**

- M.Sc. in Electronics and Communications Engineering, October 2016. GPA: 3.6000
- B.Sc. in Electronics and Communications Engineering, October 2016.
- Graduate Coursework: Advanced Mathematics, Methods of Research, Technopreneurship, Genetic Algorithms, Fuzzy Logic, Neural Networks, Robotics
- Graduate Thesis: *Utilization of the Physicomimetics Framework for Achieving Local, Decentralized, and Emergent Behavior in a Swarm of Quadrotor Unmanned Aerial Vehicles*
  - Published Journal: https://www.fujipress.jp/jaciii/jc/jacii002100020189/

OTHER NOTABLE TECHNICAL PROJECTS

- **Design and development of quadrotor swarm as a test bed for swarm algorithms** (2016). Designed software architecture and system to autonomously control a swarm of quadrotors through radio signals from a central server. Designed and coded dual-stage PID controller for flight stabilization. Added modularity to the system to allow team members to easily upload swarm algorithms for testing. Used physicomimetics as a basis for a self-organizing and self-adapting swarm algorithm. Python
- **DLSU Eco Car Electrical team member 2014-2016** (2014-2016). Personally designed, fabricated, and programmed a motor controller, battery management system, speed sensor, lights board, wiper board, and SD card based memory module for Shell Eco-Marathon Asia 2014-2015, and SEM Europe 2016. C
- **WiFi sniffer** (2016, *personal project*). Designed a program to automatically capture and decrypt random WiFi signals from the air and display packet information in a user-friendly GUI. Python
- **1x1x1 inch remote-controlled robot** (2014). Part of team that designed, fabricated, and programmed a 1in x 1in x 1in remote-controlled robot for the International Micro Robot Maze 2014 contest held in Nagoya, Japan. C
- **Remote-controlled home appliance switch** (2014, *personal project*). Designed, fabricated, and programmed an infrared remote control-based system for remote switching of common household appliances. C

ADDITIONAL EXPERIENCE AND AWARDS

- **Philippine government scholarship recipient (2014-2016):** Recipient of DOST-ERDT scholarship for Master's students. Full scholarship with monthly stipend.
- **University scholarship recipient (2011-2016):** Recipient of Bro. Andrew Gonzalez Academic Scholarship for undergraduate studies. Full scholarship.
- **Published and presented academic papers (2014-2016):** One scientific paper published in an IEEE journal (JACIII). Multiple scientific papers (two as first author) regarding quadrotor swarming algorithms accepted and published into IEEE conference proceedings.

Languages and Technologies

- Python (proficient), Go, JavaScript, C (Prior Experience in Embedded Applications)
- Scikit-learn, Pandas, Numpy, PyTorch, Keras, Tensorflow, Apache Spark, NLTK, ReactJS, Amazon Web Services, Docker, Kubernetes, Deeplearn.js