Michael Hsu

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RECENT EXPERIENCES

SHOPTHAT | SOFTWARE ENGINEER
September 2017 – March 2018 • New York, NY

- Fullstack development of e-commerce web application and B2B data analytics platform with Django backend and React and Bootstrap frontends.
- Extensive integration work with Facebook, YouTube, and Instagram APIs. Built a data pipeline to scrape and clean 500,000 Youtube and Instagram social media posts and videos per day. Implemented a sharing feature for a Facebook Messenger chatbot that saw 7% increase in product page visits.
- Implemented fuzzy string matching in conjunction with n-grams to link social media content to tens of thousands of product SKUs, as well as a recommendation system for products using said relations.
- URL routing, encoding, and parsing with Django and nginx.
- Paired on implementing, maintaining, and migrating services such as Kubernetes, Oauth2, Celery task manager, and Jenkins for continuous integration.

RECURSE CENTER | INDEPENDENT STUDY
May 2017 – August 2017 • New York, NY

- Researched lichen biology and created original simulations using the Processing framework.
- Implemented cell-based visualization of Thomas Schelling's model of racial dynamics in Javascript.
- Using OpenCV and dlib, made facial alignment and averaging script for profile photos of Recurse Center participants.
- Created visualization of Lindenmeyer system modelling fractal forms of plants in Javascript and p5 framework.
- Other activities include playing with shaders using GLSL and OpenGL, making joke JavaScript web extensions, and creating generative art sketches in Processing and p5.

NEW ENGLAND COMPLEX SYSTEMS INSTITUTE | COMPLEX SYSTEMS THEORY AND MODELLING
June 2016 • Cambridge, MA

- Intensive multi-disciplinary science and modelling course hosted at MIT. Studied topics such as cellular automata, network effects, biological systems, and geosocial systems.
- Studied and modelled network effects using mostly Python, e.g. Watts Strogatz models of "small world" networks.

TAIWAN NATIONAL SERVICE | HUALIEN CULTURAL CENTER
October 2014 – June 2016 • Hualien, Taiwan

- Data engineer for audience questionnaires. Through Ploty's API, generated graphs and reports for hundreds of events and shows. Also redesigned questionnaire to be more amenable to automatic processing.
- Lights and sound technician for the Hualien Concert Hall. Learned how to operate and program a digital lightboard, and helped rewire intercoms system.

MCGILL GEOGRAPHIC INFORMATION CENTER | CARTOGRAPHY RESEARCHER
September 2013 – October 2014 • Montreal, QC

- Developed Java application for field data ETL and analysis for the Peruvian Amazon Rural Livelihoods and Poverty (PARLAP) Project. Made maps of river communities showing the interrelatedness of their economies and activities, forming the basis for cost-path analyses of their economic networks.
- Made comprehensive maps of all of North American coastal wetlands for the Blue Carbon Mapping Project with ArcGIS.

DECODE GLOBAL | DESIGN & PROGRAMMING INTERN
Summer 2013 • Montreal, QC

- Designed and built company website with WordPress and PHP.
- Helped prototype image gamma correction module in Javascript for open source water testing project mWater.
- Tested social awareness mobile game Get Water in Unity Engine.

EDUCATION

MCGILL UNIVERSITY | B.A. COMPUTER SCIENCE
2009 - 2014 • Montreal, QC

- Areas of focus: algorithms, discrete math, complexity theory.
- Graduate level bioinformatics research on phylogenetic algorithms + RNA folding structures.
- Minors in English Lit. and Mathematics.