MIKE (YUAN HUNG) LO

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TECHNICAL SKILLS

Languages/Tools: Python, Matlab, Unix shell, Git, SQL, Docker, GCP, GKE, AWS
Python packages: numpy, pandas, sklearn, scipy, keras, tensorflow, matplotlib, bokeh, seaborn
Skillsets: machine learning, data wrangling and visualization, image processing, project management

EDUCATION

PhD, Bioengineering, University of California, Los Angeles — 9/2013 – 12/2019
BS, Biophysics, University of California, San Diego — 9/2006 – 6/2011

EXPERIENCE

Insight Data Science, San Francisco — 1/2020 – present
Insight AI Fellow (github.com/yuanhunglo/pair)
- Created Pair, an online product recommender that finds stylistically similar items across different categories with a top-5 hit rate of 0.35 by using a pre-trained CNN in keras (bit.ly/pair-app)
- Engineered a scalable end-to-end solution by Dockerizing and deploying the containerized environment to Google Cloud Platforms (GCP) using Google Kubernetes Engine (GKE) and Python
- Served the final data product as an easy-to-use Streamlit web application that dynamically scales computing resources to thousands of users and returns results within seconds
- Used Git for version control and code reviews

UCLA Department of Physics, Los Angeles — 10/2014 – 12/2019
PhD Researcher
- Devised an X-ray image reconstruction algorithm in Matlab that cuts down image processing time by 80% by augmenting existing algorithms to process multiple image frames in parallel
- Advanced the understanding of mineral and biomaterial structures and functions with 4 peer-reviewed journal articles by analyzing terabytes of X-ray image data with GPUs and high-performance computing
- Led teams of 10+ scientists in 6 synchrotron imaging experiments that generated 2 high-impact publications by thorough project planning and coordination with different stakeholders

UCLA Technology Development Group, Los Angeles — 2/2014 – 10/2015
Technology Fellow
- Selected as one of 10 Technology Fellows from UCLA for this professional development program to gain real-world exposure to business development, technology licensing, and intellectual property
- Helped market 15+ UCLA inventions to industry by analyzing product-market fit and liaising with executive officers at potential commercial partners to gauge licensing interest in university technologies
- Managed 30+ technologies in the portfolio by performing technology assessment, prior art analysis, and facilitating new patent development

PROJECTS

A Data Tour Through Los Angeles Neighborhoods (bit.ly/la-data-tour)
- Created an interactive online visual guide of LA neighborhoods for newcomers relocating to the city
- Scraped millions of open-source data on rental prices, crime rates, and venues using BeautifulSoup
- Engineered features using pandas and performed k-means clustering using sklearn to find 10 neighborhood clusters with distinct characteristics

Deep Neural Network Denoising of Electron Microscopy Images (bit.ly/dncnn-em)
- Developed a fast electron microscopy denoising engine that reduced image noise by 70% by training a feed-forward denoising CNN to detect image artifacts in simulated electron microscopy images
- Simulated and augmented training data using scipy and used data to train CNN model in tensorflow
- Sped up training time by 15X compared to single CPU by training on GPUs in the cloud

COVID-19 Case Tracker Online Dashboard (bit.ly/cov19-tracker)
- Created a real-time online dashboard to inform the latest COVID-19 cases around the US and the world
- Aggregated and visualized the latest data from various online sources using pandas and bokeh
- Deployed the dashboard as a scalable containerized application onto the web using GKE and GCP