Chun-Min (Mindy) Jen US permanent resident authorized to work in US | Willing to relocate/Remote work
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Data Scientist/Machine Learning Researcher with 10 years of academic research experience gained through analyzing big data among various medium-size (50-200), cross-national collaborations, I bring strong analytical skills in mining/interpreting data. Experienced in leveraging shallow, classic machine learning strategies to separate unwanted events from true signals by forming classifiers via regression. Excelled at deep learning in computer vision with proficiency in Python, keras, TensorFlow and Pytorch.

TECHNICAL SKILLS

- Coding: Python, MATLAB, C, C++, SQL, Bash/Tcsh/C-Shell, Fortran 90
- Toolkit: TensorFlow, Pytorch, scikit-learn, scimage, keras, scipy/numpy, matplotlib, pandas, OpenCV, Dlib, Git, Docker, AWS
- Certificate: **Deep Learning Specialization**, **Introduction to Deep Learning**, **Deep Learning in Computer Vision**
- **Machine/Deep Learning**: Leverage machine/deep learning strategies in computer vision using Regression, Natural Language Processing (NLP), Convolutional/Recurrent Neural Network (CNN, RNN) and Generative Adversarial Network (GAN)
- **Quantitative Modeling in Python and SQL**: Utilize Python and SQL to train machine learning models and perform data cleansing/mining. Use data science toolkits to extract insights, refine models and produce sound results by investigating messy information besides concluding meaningful visualizations

EDUCATION

Flatiron School, New York, NY, USA 05/2020 - 10/2020

Doctor of Philosophy, Experimental Medium-energy Nuclear Physics **publication citations** 08/2007 - 05/2013

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TECHNICAL PROJECTS

- **Face Detection Trackers - Github**
  - Designed face detection R-CNN utilizing CNN classifier trained with face box-annotated images to get **AUC** of **0.95**
  - Extracted features from pre-trained model to get descriptors for face classification with testing accuracy of **95%**
  - Implemented GAN to simulate face images and make non-smiling faces smile
- **Automatic Image Caption Generator - Github Demo Slide**
  - Developed recurrent CNN-encoded decoder using tensorflow/keras to produce a textual description for a photo
- **COVID-19-like Viral Pneumonia Classifier - Github Demo Slide Recommendation**
  - Enhanced pneumonia classification testing accuracy from 75% up to **97%** by experimenting with CNN architectures
  - Classified viral pneumonia with testing accuracy of **91%**, precision of 86%, recall of 99%, f1 of 92% and **AUC** of **0.98**
- **COVID-19 and Safety On Wheels in Chicago - Github Demo Slide Recommendation**
  - Applied tree-based models predicting contributory factors to 4 injury severity scores amid COVID-19 car accidents
  - Increased injury severity score (0, 1, 2, 3) classification testing accuracy from 68% to **96%** together with precision of 99% (0), 98% (1), 95% (2), 89% (3), recall of 90% (0), 98% (1), 98% (2), 97% (3), f1 of 94% (0), 98% (1), 96% (2), 93% (3) and **AUC** of **0.97 (0)**, **0.98 (1)**, **0.98 (2)**, **0.99 (3)**

PROFESSIONAL EXPERIENCES

Sr. Postdoc, **Los Alamos National Lab**, **Los Alamos**, **NM**, USA 09/2018 - 03/2020

- Revamped detector calibration algorithm for data cleaning to enhance signal classification efficiency from 30+% to **(80-99)%**
- Reformed test benches reducing true negative and false positive in detector readout electronics and data acquisition system

Machine learning researcher, **National Taiwan University**, Taipei, Taiwan - **Github** 10/2016 - 04/2018

- Improved and provided business decisions by developing and designing algorithms brain image regression design matrix for object boundary detection and shape recognition in functional Magnetic Resonance Image (fMRI) data
- Utilized Matlab to perform image pre-processing and calibration analyses and manipulation of advanced statistics measures

Jr. Postdoc, **Virginia Tech**, **Blacksburg**, **VA**, USA 04/2013 - 08/2016

- Collaborated with **theorists** implementing theory-driven model in particle generator to **reduce 10%** systematics uncertainty
- Supplied Insightful theory predictions increasing **CNN-based particle classifier** accuracy for better localization and detection

Graduate research assistant, **Syracuse University**, **Syracuse**, **NY**, USA 05/2009 - 05/2013

- Led and invented new approaches to multivariate regression analysis to dramatically minimize systematics uncertainties **limited to be <1%** in analyzing **>10MB** of analog and digital electronics data and significant expertise in accounting for true negative (errors) and false positive (corrections) related to particle accelerator beam optics and electronics modules