

Hsi-Ming Chang

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PROFILE

Data scientist experienced in leveraging machine learning and deep learning in computer vision to develop predictive models used in commercial software. Proficient in TensorFlow, Python, and MATLAB. Equipped with strong analytical skills gained through research in both theoretical and experimental particle physics.

TECHNICAL SKILLS

Programming: Python, MATLAB, SQL, Java, Fortran

Packages and Tools: TensorFlow, Caffe, NumPy, pandas, scikit-learn, OpenCV, Git, Docker

WORK EXPERIENCE

Data Scientist, CureMetrix, La Jolla, CA 2016–present

- Implemented multi-view object detection module utilizing information from different breast views for false positive reduction in mammograms
- Revamped medical device segmentation module and improved sensitivity from 0.60 to 0.99
- Developed image annotation tools in MATLAB, which accelerated human annotation speed from 60 images/day to 200 images/day
- Designed on-premise training pipeline for deep learning, which reduced human setup time by 50%, simplified image data management, and significantly enhanced experiment reproducibility
- Increased tumor classification AUC from 0.91 to 0.92 by experimenting with CNN architectures

Intern, CureMetrix, La Jolla, CA summer 2015

- Applied fractal dimension techniques to analyze heart rate time series and medical images
- Presented summer research results to investors; earned 20k of funding to continue project

Head Teaching Assistant, University of California San Diego, La Jolla, CA 2014–2015

- Trained and supervised more than 10 lab teaching assistants for 8 consecutive quarters
- Held lab review and Q&A sessions; raised students' lab report scores by an average of 30%

EDUCATION

PhD in Physics, University of California San Diego, La Jolla, CA 2010–2015

- Theoretical particle physics with 5 publications in top peer-reviewed journals

MS in Physics, National Taiwan University, Taipei, Taiwan 2004–2006

- Experimental particle physics with 1 publication in top peer-reviewed journal

BS in Physics, National Tsing Hua University, Hsinchu, Taiwan 1999–2004

SELECTED PRESENTATION

- “Deep Learning and Use of GPUs in Mammography,” NVIDIA GTC, Silicon Valley, Mar. 26-29, 2018