Mikio Tada

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Academic & Industry Experience

Junior Specialist — **San Francisco, CA**
University of California, San Francisco (UCSF) — Apr 2021 - Jun 2024

- Developed AI-empowered, robust, and reliable medical imaging analysis methods to enhance the diagnosis of skin diseases.
- Utilized vision transformer models and image processing techniques to identify cell morphological features associated with target cells, thereby developing virtual biomarkers for skin cancer detection.
- Explored self-supervised learning methods that leverage cell morphological features and molecular representation to acquire meaningful biological embeddings, with potential applications in drug discovery and disease prediction.

Data Scientist — **San Francisco, CA**
The Data Institute, University of San Francisco — Aug 2020 - Mar 2021

- Computer vision consulting for a large medical device company, delivering software tools to identify features in images of corneal implant devices.
- Built deep learning models to recognize the position of a corneal implant device relative to a patient's tissue.

Data Science Intern — **San Francisco, CA**
Virgo Surgical Video Solutions (Techstars NYC '17) — Dec 2019 - Jun 2020

- Built an end-to-end pipeline to automatically download videos, extract and preprocess images, and engineer features for convolution neural network models.
- Enabled automatic recording of endoscopic procedures through an image classification model that achieved 98% accuracy.
- Developed a system to automatically classify videos based on the procedure type using a deep learning model. Achieved 95% accuracy, allowing users to search thousands of videos of different procedure types.
- Collaborated with engineers to deploy a prototype object detection model using Google AutoML, for real-time polyp tracking.

Research Assistant — **Huntingdon,PA**
Juniata College — Aug 2018 - Dec 2018

- Developed a Bayesian model to predict and prevent infections in infants in Neonatal Intensive Care Units by identifying microbial sources.

Education

Ph.D., Biomedical Science — **New York, NY**
Icahn School of Medicine Mount Sinai — Aug 2024 - Present

M.S., Data Science — **San Francisco, CA**
University of San Francisco — Jul 2019 - Jun 2020

B.S., Mathematics — **Huntingdon, PA**
Juniata College — Aug 2015 - May 2019

Publications

"Learning Melanocytic Cell Masks from Adjacent Stained Tissue." **M. Tada**, M. Wei, M. Keiser. *Workshop on deep learning for noisy medical images at the 25th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2022*.
"Artificial Intelligence and Skin Cancer." M. Wei, **M. Tada**, R. Torres. *Frontier Medicine*, 2024.

Abstract

"Assessing Generalizability and Clinical Utility of AI-enabled Virtual-IHC for Melanocytic Cells" **M. Tada**, M. Wei. *Society for Melanoma Research 21st International Congress*, *2024*.

“Predicting the Presence of Melanoma from Whole Slide Images Using Multiple Instance Learning” **M. Tada**, A. So, M. Wei. *Society for Melanoma Research 21st International Congress*, *2024*.

ADDITIONAL INFORMATION

Programming Languages - Python, R, JavaScript
Data Analysis and Cloud Computing Tools- SQL, Tableau, Amazon Web Services, Google Cloud Platform, GitHub
Machine Learning Frameworks - PyTorch, Tensorflow, Keras, scikit-learn