Jeff Youngjae Lee

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Vanderbilt University- B.A. Chemistry GPA: 3.53

- Co-founded **CUPPS org** & **"I'm Good, How Are You"** Podcast; Elected **Pledge Class President** of Alpha Phi Omega
- Recipient of **Vandy Premed Society** 2022 Spring Break Trip **Scholarship** awarded to 2 students each year
- **Relevant Coursework:** Linear Algebra, Discrete Math, Calc 2, Statistics, Practicum: Deep Neural Networks

PROJECTS

↓↓↓ CLICKABLE LINKS TO WEBSITES IN TITLE

NeuroQ | github.com/leejeff0319/NeuroInsight_TFJS

- Interactive website created with **NextJS** &**TensorFlowJS** where users can try the ML model themselves
- Brain Tumor prediction through CNN supervised learning model created using transfer learning of EfficientNetV2B3 model from TensorFlow Hub with **99.11%** accuracy, **99%** F1 score, **99%** precision, and **99%** recall

Jeff The Scientist | github.com/leejeff0319/jeffthescientist

- Personalized portfolio website with animations built from scratch based off of my sketch drawing prototype
- Single-page web app developed with **NextJS**, **HTML**, **Typescript (Javascript)**, **Tailwind (CSS)**, **Vercel,** & **Git VC**

MNIST- TensorFlowJS | github.com/leejeff0319/MNIST_TFJS

- Trained a simple CNN using **TensorFlow** (**Keras**) on Google Colab and transferred the model to an interactive website built using **NextJS** (React Framework) and the **TensorFlowJS** library
- Achieved **99.6%** test accuracy with a **convolutional neural networks** (CNN) model

EXPERIENCE

Korbato-Health- ML Research Intern | korbato-health.com Jan 2023 - Current

- Actively contributing to a project supervised by Dr. Ryuichiro Yagi and Dr. Shinichi Goto, focusing on developing ECG interpretation software utilizing **deep learning** models
- Developed an algorithm to automatically extract p-wave lengths from 12-lead ECG time series data using third and fourth derivatives of the waves

Boston Children's Hospital- Research Assistant June 2023 - Current

- Developed an Electroretinography (ERG) quantification **automation** script through **Python**'s **xlwings** library to **reduce time** consumed on manual tasks by **91.4%** on average
- Contributed to various research projects under guidance of Dr. Zhongjie Fu (mentor) and Dr. Lois E Smith (co-mentor) in tasks including but not limited to literature search, experimental design, data analysis, and presentation

Chodang- Data Analyst | github.com/leejeff0319/Restaurant_Promotional_Event May 2023 - Jan 2024

- **Proposed** and **analyzed** results for a restaurant promotional event
- Presented and communicated business goals, measurement methods, confounding variables, and results back to stakeholders & came to conclusion that sales would be maximized with **side-dish promotion**, not entree
- **81.13%** target menu sale increase & **7.18%** net sale increase during event period

CERTIFICATIONS

Google Data Analytics	June 2023	**Python for Everybody Specialization**	August 2023
Google Advanced Data Analytics	September 2023	**Meta Front-end Developer**	December 2023
Meta Back-end Developer	December 2023	**TensorFlow Developer Certificate**	January 2024
AWS Cloud Practitioner	May 2024	**AWS Solutions Architect - Associate**	June 2024

TECHNICAL SKILLS

Machine Learning: pandas, sklearn, NumPy, pandas, Tensorflow(Keras) | SQL, R, RMarkdown, EDA, Stats, HuggingFace, AWS Cloud Computing
Web Development: HTML, CSS, JavaScript, React, Tailwind, TypeScript, NextJS, Bootstrap, CI/CD, TensorflowJS
Data Visualization: matplotlib, searborn, Tableau

PUBLICATIONS

1. Yagi, H., Boeck, M., Petrishka-Lozenska, M., Lundgren, P., Kasai, T., Cagnone, G., Wang, C., **Lee, J.**, Tomita, Y., Singh, S. A., Joyal, J.-S., Aikawa, M., Negishi, K., Fu, Z., Hellström, A., & Smith, L. E. H. (2024). *Timed Topical Dexamethasone Eye Drops Improve Mitochondrial Function to Prevent Severe Retinopathy of Prematurity.* https://doi.org/10.21203/rs.3.rs-4619093/v1
2. Yagi, H., Boeck, M., Nian, S., Neilsen, K., Wang, C., **Lee, J.**, Zeng, Y., Grumbine, M., Sweet, I. R., Kasai, T., Negishi, K., Singh, S. A., Aikawa, M., Hellström, A., Smith, L. E., & Fu, Z. (2024). Mitochondrial control of hypoxia-induced pathological retinal angiogenesis. *Angiogenesis*. https://doi.org/10.1007/s10456-024-09940-w