VINA RO

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EDUCATION

MSE IN BIOMEDICAL ENGINEERING, JOHNS HOPKINS UNIVERSITY Expected 2022

BS IN BIOMEDICAL ENGINEERING, NATIONAL YANG-MING UNIVERSITY (NYMU) Taipei, Taiwan

- Awarded Academic Excellence Award 2020

WORK EXPERIENCE

Research Assistant, NEURAL SIGNAL PROCESSING LAB, NYMU May 2020─June 2021

Research Intern, INTEGRATED SYSTEMS NEUROENGINEERING (ISN) LAB, UCSD Jul 2018─Aug 2018

KEY PROJECTS

MASTERS STUDENT, LABORATORY FOR COMPUTATIONAL MOTOR CONTROL Oct. 2021─Present

- **Analysis of Correlation of Complex Spikes and Licking Motion** Baltimore, MD

Skills Exercised: Data cleansing, data visualization, correlation, optimization, time series analysis, animal experiments(marmosets), MATLAB

MASTERS STUDENT, JOHNS HOPKINS UNIVERSITY Aug. 2021─Present

- **Minesweeper Game Development with the Pygame Module** Baltimore, MD

Skills Exercised: Python, user experience (UX), user interface (UI), Git

- **Developed an automated algorithm for solving the mobile game Lazors**

Skills Exercised: Algorithm development, Python, Git

RESEARCH ASSISTANT, NEURAL SIGNAL PROCESSING LAB May 2020─Jul 2021

- **Awarded the "Radiology Diagnostic Testing and Verification" research project grant from the TFDA for proposing a regulation method on Computer-aided Diagnosis Software** Taipei, Taiwan

Skills Exercised: Professional writing (grants, regulation documents), comprehended ISO13485, ISO10993, and FDA SaMD documents, MATLAB

- **Developed 3 Sleep Stage Detection Algorithms to analyze REM Sleep Behavior Disorder Analysis for PD patients**

Skills Exercised: MATLAB, Python, R, statistical techniques, data cleaning, scientific writing
Related Publication: Yi-Feng Ko et al., "Quantification Analysis of Sleep Based on Smartwatch Sensors for Parkinson's Disease". Biosensors. 2022; 12(2):74.

- **Developed a Smartwatch-based Machine Learning AF detection system with self-collected data** *Collaboration with ASUS

Skills Exercised: Wearable technology assessment equipment operation, data cleaning, Digital Signal Processing (DSP), machine learning, Docker, MATLAB, Python

UNDERGRADUATE RESEARCHER, NEURAL SIGNAL PROCESSING LAB Sep 2018─May 2020

- **Developed a 3-Dimension Convolutional Neural Network that extracts spatial features from processed ECoG signals to establish a regression model for finger gesture prediction** Taipei, Taiwan

Skills Exercised: DSP, data cleaning, data visualization, Deep Learning, MATLAB, Python
Related Achievements: Awarded Undergraduate Research Grant by Ministry of Science and Technology

- **Designed and Developed a Health Care Platform for Fall and Emotional Gait Detection with Data Recorded from Depth Cameras**

Skills Exercised: Database construction, Machine Learning, MATLAB
Related Achievements: Awarded Excellent Work in International Contest of Smart Technology Design for Long Term Health Care (out of 60 teams)

RESEARCH INTERN, INTEGRATED SYSTEMS NEUROENGINEERING (ISN) LAB Jun 2018─Aug 2018

- **Computational Simulation of Neural Models** La Jolla, CA

Skills Exercised: Python, neural computation, biological mathematical models
Related Presentation: Vina Ro, Gert Cauwenberghs, Frederic Broccard, "Simulation of Spiking Neural Networks,". UCSD International Summer Research Program Symposium, University of California, San Diego, August 2018.