Clyde James Felix

Personal Data

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Education

AUGUST 2020 - MAY 2021

University of Hawaii at Manoa, Hawaii
MS in Electrical Engineering,
Thesis advisor: Il Yong Chun, Ph.D.

AUGUST 2016 - MAY 2020

University of Hawaii at Manoa, Hawaii
BS in Electrical Engineering,
GPA: 3.45/4.0, Major GPA: 3.58/4.0

Coursework:
Linear Algebra MATH 307
Signals & Systems EE 315
Probability & Statistics EE 342
Communication Systems EE 343
Linear Feedback & Control Systems EE 351
Numerical Analysis ME 360
Digital System & Computer Design EE 361
Engineering Electromagnetics I & II EE 371 & EE 372
Digital Signal Processing EE 415
Digital Image Processing EE 416
Machine Learning EE 445
Image Processing & Computer Vision EE 616 (Graduate)

Work Experiences

MARCH 2020 - MAY 2020

Software Engineering Intern
Alohapay Inc.

Performed as a Software Engineer intern/trainee and Lead Quality Assurance tester, including the development of react-native for Android/iOS devices, NodeJS backend applications, and python applications.

- Led Product Documentation in Mobile app development.
- Developed an automated mobile testing Python script using Selenium.

January 2020 - May 2020

Undergraduate Teaching Assistant
University of Hawaii Department of Electrical Engineering

Served as a Teaching Assistant for EE 345, *Linear Algebra & Machine Learning*, for 10+ 3rd and 4th year engineering students.

- Taught students Python programming and course materials.

May 2019 - Present

Undergraduate Research Assistant
University of Hawaii Department of Physics & Astronomy

Assisted the study of developing an efficient neutron detector.

- Responsible for constructing experimental Neutron detectors and data collections using radioactive sources.
- Created an easy-to-access Python program that analyzes voltage waveforms due to elementary particles.

June 2019 - August 2019

Undergraduate Research Assistant
University of Hawaii Department of Mathematics

Research work on Automatic Complexities, VC-dimensions, and the Fibonacci/Tribonacci sequences.

- Collaborated with undergraduate students using Python programming.
- Contributed to an ISAIM conference paper and Undergraduate Research Opportunities Program (UROP) presentations for the theoretical findings.

July 2019 - August 2019

Exchange Student Researcher
Tokyo University of Agriculture & Technology

Participated in a Japan Summer Exchange Program to perform research in the engineering field.

- Developed a Brain-Computer Interface Machine Learning model using MATLAB to classify brain wave-forms whether the user is at rest or in a Motor Imagery task.
- Successfully determined a better Motor Imagery setting that will benefit stroke rehabilitation studies. Co-wrote a publication with professors for an ICASSP conference.

Notable Projects

January 2020 - May 2020

Investigation of Machine Learning algorithms using MNIST and CIFAR-10 datasets
Advisor: *Dr. Narayana Prasad Santhanam*

- Investigated Neural Network fundamentals through linear algebra, Probability/statistics, and Python programming.
- Understand Machine learning algorithms using Keras, Tensorflow and Sklearn libraries on MNIST and CIFAR10 datasets.

July 2019 - August 2019

Enhancement and Detection of Event-Related Desynchronization in EEG Signals based on Action Observations
Advisor: *Dr. Toshihasa Tanaka*

- Developed a Brain-Computer Interface Machine Learning model using MATLAB to classify brain wave-forms whether the user is at rest or in a Motor Imagery task.
- Successfully determined a better Motor Imagery setting that will benefit stroke rehabilitation studies. Co-wrote a publication with professors for an ICASSP conference.

July 2018 - August 2018

Smart Campus Energy Lab (SCEL): Weather sensor device
Advisor: *Dr. Anthony Kuh*

- Engineered a cost-effective weather data collection device using PCB CAD designing and C++ and other Electrical engineering tasks.
- Notable for launching the device at the UH Manoa campus that wirelessly sends data onto a computer server.

Leadership & Extracurricular Activities

January 2019 - Present

IEEE Student Hawai'i Branch
Executive Officer

August 2018 - January 2019

Engineer's Council at the University of Hawai'i (ECUH)
Executive Officer

2019 - 2020

Medical Innovation and Design (MIND) competition
Developed an iOS mobile app that enable patients to non-verbal communicate with nurses and family members using Swift.

2019 - 2020

Hawai'i Annual Code Challenge (HACC) Hackathon
Developed a landing page for Electric Vehicle Charging stations in Hawaii using Django web framework.

Technical Skills

Software

Linux/Unix, Git, Python, Matlab, C/C++, PCB CAD, HTML/CSS, LaTeX

Publications

- B.K. Hanssen, C. Felix, S.Y. Kim, E. Lamb, and D. Takahashi (2020).VC-dimensions of nondeterministic finite automata for words of equal length. ISAIM 2020. <https://arxiv.org/pdf/2001.02309v1.pdf>
- R. Islam, C. Felix, T. Tanaka. Enhancement and Detection of Event-Related Desynchronization in EEG Signals based on Action Observations. Preprint.
- B.K. Hanssen, C. Felix, S.Y. Kim, E. Lamb, and D. Takahashi. Automatic Complexity of Fibonacci and Tribonacci words. Preprint.

Presentations

May 2020	**Neural Networks for Learning** College of Engineering Senior Capstone project. Honolulu, Hawaii.
August 2019	**Enhancement and Detection of Event-Related Desynchronization in EEG Signals based on Action Observations** Tokyo University of Agriculture & Technology. Tokyo, Japan.

Awards & Achievements

2016, 2019, 2020	**Dean's list**
2016-2020	**Hawaii B Plus Scholarship**
2018	**Fred & Annie Chan Scholarship Fund for Electrical Engineering**
2019	**Ronald N.S. Ho & Ann T. Scholarship Endowment in Electrical Engineering**