Clyde James Felix

Contact Information

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Education

Aug 2020 - May 2021
University of Hawaii at Manoa, Hawaii
MS in Electrical Engineering
Thesis advisor: Il Yong Chun, Ph.D.

Aug 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)
Algorithm I EE 602 (Graduate)
Linear and Convex Optimization EE 617 (Graduate)
Applied Random Processes EE 640 (Graduate)

Work Experiences

Aug 2020 - Present
Graduate Research Assistant
University of Hawaii Department of Electrical Engineering

- Perform Graduate level research in medical imaging & biological image computing using Machine Learning and AI.
- Exercise research methodologies in data science and Image Processing & Computer Vision.
- Mentor undergraduate students and support other related research.

Jan 2020 - Present

Teaching Assistant
University of Hawaii Department of Electrical Engineering

- EE 415: Digital Signal Processing. Mentored senior-level students on applying course concepts in MATLAB.
- EE 345: Linear Algebra & Machine Learning. Taught students Python programming and prerequisite concepts on Machine Learning.

Mar 2020 - May 2020

Software Engineering Intern
Alohapay Inc.

- Quality Assurance (QA) tester, including the development of react-native for Android/iOS devices, NodeJS backend applications, and Python applications.
- Integrated Python test scripts with Selenium that boosts debugging productivity.
- Composed and organized documentation on testing reports and user manual on company procedures.

May 2019 - July 2020

Undergraduate Research Assistant
University of Hawaii Department of Physics & Astronomy

- Facilitated the study of developing an efficient neutron detector.
- Conducted Neutron detector experiments and data collections using radioactive sources.
- Utilized Linux and Python scripts to provide data analysis on neutron detection experiments to validate hypotheses.

Jun 2019 - Aug 2019

Undergraduate Research Assistant
University of Hawaii Department of Mathematics

- Collaborated with undergraduate students on Automatic Complexities, VC-dimensions, and the Fibonacci/Tribonacci sequences using Python programming.
- Contributed to an ISAIM conference paper and Undergraduate Research Opportunities Program (UROP) presentations for the theoretical findings.

Jul 2019 - Aug 2019

Exchange Student Researcher
Tokyo University of Agriculture & Technology

- Developed a Brain-Computer Interface Machine Learning model in MATLAB that classifies Motor Imagery tasks.
- Successfully determined a better Motor Imagery setting that will benefit stroke rehabilitation studies. Co-wrote a preprint with mentors.

Notable Projects

Jun 2020 - Present — **Applying Reinforcement Learning on Asymmetric Strategic games**
Advisor: *Dr. Narayana Prasad Santhanam*

- Introduced methods in applying Reinforcement Learning on games.
- Applied algorithm on a game *Goats & Tigers*.

Jan 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.

Jul 2019 - Aug 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.

Jul 2018 - Aug 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

Jan 2019 - May 2020 — **IEEE Student Hawai'i Branch**
Executive Officer

Aug 2018 - Jan 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, Java C/C++, 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.

Presentations

May 2020	**Neural Networks for Learning** College of Engineering Senior Capstone project. Honolulu, Hawaii.
Aug 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**