Arden Chew

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Education

Johns Hopkins University (*Graduating May 2019)*

Majors: Computer Science and Biomedical Engineering
Minor: Computer Integrated Surgery
Computer Science GPA: 3.78 (Dean's List 2016, 2017, 2018)

Experience

Allen Institute for Brain Science

Software Engineering Intern (Summer 2018)

PyTorch implementation of Unet convolutional neural net for multi-label neurological tissue feature recognition (in Docker containers)
OpenCV Delaunay triangulation contour recognition and nonlinear image stitching

Accuo, Image Guided Needle Placements

Co-founder (2016-Present)

Developing patented image reconstruction algorithms, integrating Arduino software, and leading product development and clinical testing for novel ultrasound needle guidance medical device

Center for Sensorimotor Neural Engineering

Machine Learning Intern (Summer 2017)

Designed Python workflow pipeline for testing cochlear implant stimuli, backend in C
Optimized cochlear implant stimulus parameters using PySwarm

Johns Hopkins Neuroengineering & Biomedical Instrumentation Lab

Software Development Assistant (2017-2018)

Incorporated Tensorflow deep Q-learning network into virtual reality application for prosthetic users to train fluid upper limb prosthetic movement by completing virtual tasks

Johns Hopkins Center for Imaging Sciences

Medical Imaging Research Assistant (2016-2017)

Developed 3D landmarking software to correct generated surface mesh topology of cerebral features

Projects & Publications

PupilCV (2018-present)

Python toolkit – Realtime pupil dilation and movement detection using OpenCV and Pillow for pupillometry and concussion analysis

LastPiece (2017-2018)

Android app – Board game that includes a reinforcement machine learning assisted computer player and multi-threading

Accuo Website (2018)

Website – Developed my start-up company website

VentureWell (2017)

Presentation and Patent Pending – "*Accuo: Image Guided Needle Placements*"

American Society for Bone and Mineral Research (2015)

Published Abstract, Presentation and Poster (Second Author) – "Cross-Species Analysis in Zebrafish and Rat Reveals Conserved Dynamics in Genes Associated with Human BMD and Bone Disorders"

Activities

Teaching Assistant

Biomedical Engineering: Programming in Python, Matlab, and R

Biomedical Engineering: Molecules and Cells

NCAA Varsity Soccer Player

3x Centennial Conference Academic Honor Roll Award Winner

Academic All-Region

Chi Alpha Sigma National College Athlete Honor Society

Hopkins Biomedical Engineering Society

Volunteer at Johns Hopkins Brain Simulation Lab