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EDUCATION

UC BERKELEY

BS IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCES

May 2017 | Berkeley, CA
College of Engineering
High Honors (Top 10%)
Cum. GPA: 3.85 / 4.0
Major GPA: 3.84 / 4.0

LINKS

Website://AlexKashi
Github://AlexKashi
LinkedIn://AlexKashi

COURSEWORK

UNDERGRADUATE CS

Introduction to Machine Learning
Operating Systems
Artificial Intelligence
Internet Architecture and Protocols
Computer Security
Efficient Algorithms

UNDERGRADUATE EE

Feedback Control Systems
Analog Integrated Circuits
Introduction to Robotics
Introduction to Embedded Systems
Signals and Systems
Microelectronic Devices and Circuits

SKILLS

PROGRAMMING

Professional Proficiency
Python • Java • Android • C++

High Proficiency
C • GraphQL • AWS • \LaTeX
Matlab • Tensorflow • OpenCV

Working Proficiency
Qt • ROS • C#

AFFILIATIONS

2016 Camp Kesem
2015 Eta Kappa Nu Electrical
Engineering Honor Society
2013 Academic All American
(Water Polo)

AWARDS

Regional High School Valedictorian
National Intel Scholarship
Regional Silicon Valley Eng. Council
Regional Top Senior Thesis - FHS

EXPERIENCE

STANFORD GENOME TECHNOLOGY CENTER | RESEARCHER

Sep 2017 - Present | Stanford, CA | Advisor: Prof. Ronald W. Davis & Dr. Robert Phair
Python

- Devised the first classifier for Myalgic Encephalomyelitis (ME/CFS) based on the data collected by our sensor and my feature extraction algorithm, published in PNAS
- Developed hardware and software for a low-cost impedance measurement device
- Optimized the above technologies from inception to a commercially viable product
- Designed an image segmentation algorithm to extract individual cells from SEM images
- Used CNNs to determine the distribution of blood cells for clinical diagnostics
- Manuscript published in MDPI Diagnostics for the metabolic & genetic origin of ME

INTEL | SOFTWARE ENGINEER

Jun 2017 - Sep 2017 | Santa Clara, CA
C • ASL

- Improved drivers for I2C and UART interfaces, including touch screens and cameras
- Debugged BIOS ASL code adding features and configuring new peripherals
- Programmed firmware for x86 based R&D devices

ZSPACE | SOFTWARE ENGINEERING RESEARCH INTERN

May 2016 - Aug 2016 | Sunnyvale, CA
Python • C++ • C#

- Utilized CNNs to design a gaze tracking system compatible with polarized 3D glasses
- GPU accelerated using the Theano machine learning framework
- Trained on over 10GB of data collected from 36 participants on a proprietary data collection application
- Classified test images from infrared cameras in real-time

INTEL | UNDERGRADUATE TECHNICAL INTERN - CLIENT R&D

May 2015 - Aug 2015 | Santa Clara, CA
Java • C++ • C

- Architected a MapReduce framework for local big data processing on Android devices
- Parallelized the framework using pthreads in native C/C++ using the Android NDK
- Created an application for my framework by implementing k-means clustering to preprocess location data locally before sending the result to the server
- Effectively reduced server storage requirements and average query time

PROJECT EXPERIENCE

FULL-STACK ANDROID DEVELOPMENT

Java • GraphQL • AWS

- Designed fully featured Android social networking application from the ground up
- Back-end designed using AWS amplify, deployed with Serverless Framework
- DynamoDB NoSQL database streamed to Elasticsearch over Lambda for handling geospatial and full-text queries
- Authentication and security provided by AWS cognito, and IAM roles
- Caching and loading data from the back-end using android architecture components

LOW-COST RELIABLE LOCALIZATION OF DRONE

Python

- Created a low-cost highly redundant alternative to a Vicon Motion capture system that enables indoor aerial delivery via drone
- Reduced the cost by only requiring a standard HD webcam and an array of AR tags
- Acquired a single pose estimation with the ROS package ar_track_alvar and used MAVROS to communicate with the Pixhawk PX4 2.4.8 flight controller

PUBLICATIONS | STANFORD

Healthcare • Nano-electronics Biosensor • Machine Learning • Artificial Intelligence

- Esfandiyarpour, R., **Kashi, A.**, Nemat-Gorgani, M., Wilhelmy, J., & Davis, R. W. (2019). A nanoelectronics-blood-based diagnostic biomarker for myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). *Proceedings of the National Academy of Sciences*

Bioinformatics • Non-linear Mechanistic Modeling • Systems Biology

- Kashi, A. A.**, Davis, R. W., & Phair, R. D. (2019). The IDO Metabolic Trap Hypothesis for the Etiology of ME/CFS. *Diagnostics*