Alex Kashi

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EDUCATION

UC BERKELEY
BS in Electrical Engineering and Computer Sciences
May 2017 | Berkeley, CA
College of Engineering
High Honors (Magna Cum Laude)
Cum. GPA: 3.85 / 4.0
Major GPA: 3.84 / 4.0

LINKS

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 • Matlab • LaTeX
Theano • OpenCV
Working Proficiency
TensorFlow • Qt
ROS • C# • x86

TOOLS
Unix • Vim • Git
Cadence • Eclipse

AWARDS

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

EXPERIENCE

STANFORD GENOME LAB | Researcher, Department of Biochemestry
September 2017 - Present | Stanford, CA | Advisor: Prof. Ronald W. Davis
Python

- Optimized nanosensors for the diagnosis and treatment of Myalgic Encephalomyelitis (ME/CFS)
- Applied scientific computing skills to devise a feature extraction algorithm and classifier for ME/CFS based on the data collected by nanosensors
- Developed hardware and software for a low-cost impedance measurement device
- Wrote and submitted a manuscript to PNAS for review
- Interviewed and hired graduate students for RA positions

ZSPACE | Software Engineering Research Intern
May 2016 – Aug 2016 | Sunnyvale, CA
Python • C++ • C#

- Utilized deep convolutional neural networks 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
- Processed and classified images from infrared cameras in real-time

INTEL | Undergraduate Technical Intern - Client R&D
May 2015 – Aug 2015 | Santa Clara, CA
Java • C++ • C

- Implemented a general solution to local big data processing on Android devices
- Designed an application for my generalized MapReduce framework by implementing k-means clustering to decrease the local data footprint on servers
- Full stack development from the NDK to IPC to UI
- Parallelized with Pthreads and insured thread safety with mutexes

PROJECT EXPERIENCE

LOW COST RELIABLE LOCALIZATION OF DRONE
Python

- Created a low-cost alternative to a Vicon Motion capture system to enable indoor aerial delivery via drone
- Reduced the cost by only requiring a standard HD webcam and an array of AR tags
- Connected multiple AR tags rigidly to the origin, allowing for rigid body transforms to locate the drone in global coordinates
- 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

ARTIFICIAL INTELLIGENCE | Various Techniques for a Pacman AI
Python

- Implemented Q-learning, value iteration, policy iteration, and policy extraction to determine which action an agent should take given state-actions pairs
- Enacted Bayes Nets for predicting the behavior of agents conditioned on observations of their actions
- Applied Hidden Markov models and particle filtering to determine location of agents when observations are noisy
- Used Minimax with alpha-beta pruning, and A* path finding with consistent heuristics

PRESENTATIONS, PROCEEDINGS, AND PAPERS

Esfandyarpour, R., Kashi A., Wilhelmy J., Cervantes L., & Davis R. W. A Low-cost, Blood-based Diagnostic for ME/CFS. Poster session presented at: Inflammation, Aging and Chronic Disease; 2017 November 27-28; Stanford, CA.

AFFILIATIONS

2016	National	Camp Kesem
2015	Top 25%	Eta Kappa Nu Electrical Engineering Honor Society Member
2013	National	Academic All American (Water Polo)