Adam Li

ali39@jhu.edu
Adam2392@gmail.com
www.linkedin.com/in/adamli2392/
(805) 807-5898
Personal Website: http://adam2392.pythonanywhere.com/
Github Account: Adam2392

EDUCATION:

JOHNS HOPKINS UNIVERSITY **Graduation: TBD**
Doctor of Philosophy: Biomedical Engineering *GPA: 3.8/4.0*

UNIVERSITY OF CALIFORNIA, SAN DIEGO **March 2015**
Bachelor of Science: Bioengineering *Major GPA: 3.75/4.0*
Bachelor of Science: Mathematics-Applied Science *Major GPA: 3.74/4.0*

YALE SCHOOL OF MANAGEMENT **2014**
Global Pre-MBA Leadership Program: Selective Leadership Program
Placed 3rd in Audubon Business Concept Pitch Plan, and 2nd in Audience Choice Award

PUBLICATIONS:

1. Li A, Gandhi N, Coleman T, Litvan I. "An Analysis of Microsoft Kinect for Gait Evaluation of Parkinson's Disease". *Preparing for manuscript* (2016).
2. Li A, Inati S, Zaghloul K, Sarma S. "Fragility in Epileptic Networks: The Epileptogenic Zone". *American Control Conference* (2017).
3. Li A, Gunnarsdottir K, Inati S, Zaghloul K, Gale J, Bulacio J, Martinez-Gonzalez J, Sarma S. "Linear Time-Varying Model Characterizes Invasive EEG Signals Generated from Complex Epileptic Networks." Engineering in Medicine and Biology Conference (2017).
4. Gunnarsdottir K, Li A, Bulacio J, Martinez-Gonzalez J, Sarma S. "Estimating Unmeasured Invasive EEG Signals Using a Reduced Order Observer." Engineering in Medicine and Biology Conference (2017).
5. B. Chennuri, A. Li, A. Jordan, S. Subramanian, S. Hao, J. Gale, S.V. Sarma, J. Gonzalez-Martinez. "Localizing the Seizure Onset Zone From Invasive EEG Recordings in Intractable Focal Epilepsy." *In Preparation for Science Translational Medicine* (2017).

PATENTS:

1. GEAR (Game Enhancing Augmented Reality) - A lower limb alternative control interface for computers. Inventors: Adam Li, Gyorgy Levay, Nate Tran. 5/23/16.
2. Identifying the Epileptogenic Zone using Network Fragility Theory. Inventors: Sridevi Sarma, Adam Li, Jorge Gonzalez. 9/22/16.

HONORS AND AWARDS:

NSF-GFRP (Honorable Mention) – Honorable mention out of 17,000 applicants 2016

Intel Cornell Cup 1st Place – Featured on Popular Science, Youtube, JHU News and Intel 2016

HopHacks Biomedical Data 1st Place – Won 1st place at Johns Hopkins hackathon for use of medical data 2016

MedHacks 1st Place – Won 1st place in the first medical hackathon at Johns Hopkins 2015

NIH NETI – NeuroEngineering training initiative for 11 students out of ~500 that apply to program 2015

Frontiers of Innovation Scholars Program – Interdisciplinary fellowship out of 350 applicants 2015

California Space Grant / IDEA Center Scholarship – Recipient of competitive scholarship 2014

NCIIA E-Team Program – National selective program (~15% acceptance rate) for funding 2014

UCSD Sixth College Leadership Award – Finalist For Outstanding Leadership 2014

ASAIO – Student Design Competition Top 27 In Nation 2014

Tau Beta Pi – Engineering honor society 2014

Gordon Fellow – Engineering leadership excellence award 2014

Health and Life Sciences Grant – Interdisciplinary grant for pilot studies in translational medicine 2013

Von Liebig NSF I-Corps Fellow – Competitive startup program for NSF seed funding 2013

Chapter of the Year Award – National award from ISPE for best student chapter in the country 2012, 2013

National EWH Design 2nd Place – Placed 2nd for global healthcare engineering design 2013

Gordon Leadership Scholar – Competitive leadership program 2013

Amgen Scholar UCSD – Competitive summer research program (awarded but had to decline) 2013

California Institute for Telecommunications and IT – Competitive Summer Research Grant 2012

PRESENTATIONS AND CONFERENCES:

1. *"Analysis of Gait Applied to Parkinson's Disease",* A. Li, N. Gandhi, I. Litvan and T. Coleman, Thiel Summit Conference for Entrepreneurship, Las Vegas NV, November 11th, 2014.
2. *"GreenHaven 501© Non-Profit Business Pitch",* A. Li, A. Ruby, N. Rivat, R. Saha, A Foster and A. Terra, Yale School of Management Audubon Pitch, New Haven NH, June 29th, 2014.
3. *"The Gait Analysis of Parkinson's Disease"*, A.Li, N. Gandhi, L. Li, J. Chu, C. Yang, I. Litvan and T. Coleman, UCSD Bioengineering Day Poster Conference, San Diego CA, April 10th, 2014.
4. *"BioMetrics Analytics",* A.Li, N. Gandhi, L. Li, J. Chu, C. Yang, Von Liebig NSF I-Corps Phase 1 Pitch, La Jolla CA, March 10th, 2014
5. *"Feasibility of 3D Deformation and Strain Analyses by Micro-Computed Tomography",* A. Li, E. Cory, J. Caffrey, V. Wong, Q. Nguyen and R. Sah, ISPE Poster Competition, La Jolla CA, May 29th, 2013.
6. *"Feasibility of 3D Deformation and Strain Analyses by Micro-Computed Tomography"*, A. Li, E. Cory, J. Caffrey, V. Wong, Q. Nguyen and R. Sah, Calit2 Summer Scholars Presentation, La Jolla CA, September 21st, 2012.

RESEARCH EXPERIENCE:

NEUROMEDICAL CONTROL SYSTEMS LABORATORY (sree@jhu.edu) Aug 2015 – Present

Graduate Student Researcher under Dr. Sri Sarma Baltimore, MD

- My work focuses on precise focus localization and automatic seizure detection from ECoG recordings.
- Utilizing machine learning algorithms, statistical modeling, network theory, high performance computing and spectral analysis to analyze EEG signals during epilepsy (Python, MATLAB on Linux Systems)
- Analyzing electrophysiological data from epileptic patients from JHU, UMMC and NIH using novel algorithms to detect the epileptogenic zone

FUNCTIONAL & RESTORATIVE NEUROSURGERY UNIT (kareem.zaghloul@nih.gov) Jan 2016 – Aug 2016

Graduate Student Researcher under Dr. Kareem Zaghloul Baltimore, MD

- Researched memory reinstatement of a word pair remap associate task using Morlet wavelet, multitaper FFT and time series analysis
- Modified task extraction code to collect useful metadata about experimental events

NEURAL INTERACTION LABORATORY (tpcoleman@ucsd.edu) Sept 2013 – Sept 2015

Senior Design Engineer and Undergraduate Researcher under Dr. Coleman and Dr. Litvan La Jolla, CA

- Researched and developed novel ways to evaluate Parkinson's disease using gait and 3D spatiotemporal data from the Microsoft Kinect in collaboration with Computer Vision Lab and School of Medicine.

- Started a project from scratch to develop a Parkinson's disease tracking software product using C++ and Matlab to create a data acquisition platform and signal analysis algorithms
- Mentored a senior Bioengineering design group within the design course sequence to engineer a cost-effective mobile eye tracking system in collaboration with a movement disorders specialist
- Carried out validation and clinical experiments on 21 PD and 21 control subjects, while coordinating scheduling with clinicians and patients
- Secured startup company funding from the National Science Foundation and the VentureWell E-Team Program and also applied to present at the Clinton Global Initiative University
- Wrote successful Health and Life Sciences grant and IRB to carry out pilot clinical studies in collaboration with 3 professors; awarded the Gordon Fellowship Award for outstanding engineering leadership

ENGINEERING WORLD HEALTH Sept 2012 – Sept 2014

Project Team Leader for PCR La Jolla, CA

- Collaborated with UCSD School of Medicine and a clinic in Mozambique to develop a rapid, cost-effective medical device for diagnosing HIV, which culminated in 2nd place for the EWH National Design Competition
- Led team of 10 in product development, while managing a budget of over $10,000. Developed firmware on microcontroller using C++ and C (utilized PID algorithm, SolidWorks and circuit design)
- Mentored and helped carry out "build days" with K-12 students to get them excited about science

QUALCOMM INSTITUTE (rsah@ucsd.edu) Jun 2012 – Sept 2012

Summer Research Scholar under Calit2 La Jolla, CA

- Awarded $3000 to be a part of a 30 person cohort in order to conduct ~40+ hrs/week of independent research for the purpose of improving quality of life using emerging technologies and analytics
- Conducted initial feasibility experiments using a LabView programmed mechanical actuator to compress agarose hydrogels with embedded radiopaque particles, while imaging with 3D microCT
- Developed a computational method with 90% accuracy to measure strain and strain variance using quantitative statistical analysis

CARTILAGE TISSUE ENGINEERING LABORATORY (rsah@ucsd.edu) Sept 2011 – Jun 2013

Undergraduate Researcher under Dr. Robert L Sah La Jolla, CA

- Created standard operating procedures for inventory processing, laboratory operations, tissue preparation, hydrogel polymerization, data collection methods and data analysis of CT images
- Scanned and analyzed bone and tissue images using microCT, Excel, Matlab and CT image analysis software and then documented experimental results through scientific reports
- Contributed to a large human cartilage research project by scanning ~20 samples over the course of an entire weekend for ~72 hrs straight; in collaboration with orthopedic surgeons and post-docs of lab

INDUSTRY EXPERIENCE:

BIOMETRICS ANALYTICS (*neilrg11@gmail.com)* Sept 2013 – Sept 2015

Chief Executive Officer & Co-Founder San Diego, CA

- Researched & developed novel ways to evaluate Parkinson's Disease using biometric sensors and robust data analysis; led team in data acquisition of human data, data analysis and statistical analysis using MATLAB and Python
- Developed Parkinson's disease tracking software using Microsoft Kinect with C++, C#, MATLAB and Python

to create data acquisition and machine learning algorithms and movement analytics

- Raised over $20,000 and filed an IRB for carrying out pilot clinical human study; received the Gordon Fellowship Award for outstanding engineering leadership (awarded to 3 students/year at UCSD)
- Accepted into the Von Liebig National Science Foundation I-Corps Program as well as the NCIIA Entrepreneurship Program (~15% acceptance rate)

UCSD COMPUTER SCIENCE (ggillespie@ucsd.edu) Sept 2014 – Mar 2015

Computer Science Tutor under Gary Gillespie San Diego, CA

- Sole bioengineer in cohort, assisted 100+ students in learning basic data structures in Java, C and C++
- Graded exams and assisted professor in communicating fundamental concepts in computer science

WEST HEALTH INSTITUTE 501© *(*asim.mittal@gmail.com) Jun 2014 – Jun 2015

Data Processing Intern under Asim Mittal San Diego, CA

- Wrote pymongo queries running on an event scheduler (python, MongoDB) that provide metrics and analytics for the clinical team to analyze behavior during gameplay on the Microsoft Kinect
- Developed clinical web forms using HTML, CSS, Highcharts.JS, JavaScript (with JQuery), which are then linked to a DB with Node.js; tested on an AWS instance using git and bitbucket VCS
- Built an Android application that created a custom launch screen for the clinical team with Java and XML

GENENTECH INC. (schimizzi.domenic@gene.com) Jul 2013 – Jun 2014

Process Engineering Intern and College Ambassador under Domenic Schmizzi San Francisco, CA

- Collaborated with Genentech College Programs to improve online engagement by ~60%, while coordinating events with directors and human resources that drew in over 200 attendees
- Implemented a new batch control process using Rockwell Automation and PLCs to automate chromatography purification process (used Structured Text, Sequential Flow Charting, SQL and Python)

LEADERSHIP AND OTHER EXPERIENCE:

HOPKINS ENGINEERING & MEDICINE EXCHANGE Sept 2016 - Present

Co-Founder/President – Plan events for collaborations between engineering, medicine and public health

JOHNS HOPKINS BME COUNCIL Sept 2016 - Present

Social Chair – Coordinate and plan events for increasing collaboration within department

GRADUATE REPRESENTATIVE ORGANIZATION Sept 2015 – Present

BME Department Representative

ALPHA KAPPA PSI @ UCSD Apr 2012 – Jun 2014

Class President and Director of Consulting

INTERNATIONAL SOCIETY FOR PHARMACEUTICAL ENGINEERING @ UCSD Sept 2011 – June 2014

Vice President External

COMPETITIONS:

INTEL CORNELL CUP (1st place Nationwide) Apr 2016

- Created an augmented reality device using Intel hardware and software to help disabled individuals.

HOPHACKS (1st place in Biomedical Data Challenge) Feb 2016

- Created web app for web scraping, data visualization and search functionality of clinical trials in the USA

MEDHACKS @ JHU 2015 (1st place) Oct 2015

- Developed apparatus using ultrasound transducers, raspberry PI and web server to detect blood clots