Brian Lai

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Education

University of Illinois Urbana-Champaign, IL
BS Biological Engineering May 2015

Course Work:
Biological Nano-engineering, Renewable Energy Systems, Bioprocessing Biomass for Fuel, Cellular Biomechanics

Work

US Army Corps. Of Engineers – Python Developer June 2014 – August 2015

- Developed script in Python for 3D mapping using raspberry pi and quad-copter
- Developed system for processing data in parallel with data collection
- Redesigned tracking systems to work with tabular data
- Developed tools in Python for vehicle tracking and post-data-collection processing
  - Used to track military vehicles and model human-driven mobility
  - Data parsing, statistical analysis

Windaid Volunteer May 2013 – June 2013

- Spent a month in Peru building Guinness World Record highest wind turbine
- Welded and worked with carbon fiber, epoxy resin, and fiberglass

Undergraduate Research Assistant for Algae-Biofuel Research August 2012 – May 2013

- Tested water quality [Ammonia, Nitrogen, Chemical Oxygen Demand, and pH]
- Designed growth chambers for wastewater-fed algae
- Monitored conditions for Hydrothermal Liquefaction [HTL] process

Organizations and Activities

Major League Hacking Hackathons Spring 2015

- HackThePlanet – won Microsoft Award
  - Built productivity chrome extension using Microsoft Azure Machine Learning platform
  - Learns over time which websites user wastes time on and suggests educational pages
- HackHolyoke – won Most Innovative Award
  - Built "JARVIS from Iron Man" – a SIRI for the "smart home" to control every smart home device
  - JARVIS was built in Java using Carnegie Mellon's language models for voice recognition

NASA-JPL Space Design Competition Spring 2015

- Won Top 6 in space design competition for landing a rover on Mars.
  - Analyzed bitmap of Mars surface and determined safe land-zones according to NASA guidelines

E-Week [Engineering Week] Spring 2011/2012

- Exhibited a radial compressor jet turbine and explained its mechanism
- Explained the HTL process and presented sample of bio-crude oil

Eco-Illini Eco Car Marathon August 2011 – May 2012

- Designed lubrication system

Skills

Computer:

- Python, HTML5, CSS3, JavaScript, MySQL, Java, Django, nodeJS, MongoDB, C++, C, Matlab, NetLogo, Autodesk Inventor, ArcGIS

Languages:

- Fluency in Cantonese, Mandarin
- Elementary proficiency in Spanish