Kang (Frank) Chen

Undergraduate Student
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Research Interest

I am primarily interested in vision and robot learning, specifically training robots to adapt to novel situations using causal learning. I hope to build robots that can perceive the world as we do.

Education

University of California, Los Angeles
Spring 2017

Computer Science B.S.
GPA: 3.34/4.0

Relevant Skills & Courses

C/C++, MATLAB, Octave, Python, Javascript, OCaml
OpenCV, Mathematical Modeling, Algorithms, Data Structures

Academic Experience

Center for Vision, Cognition, Learning, & Art
March 2016 - present

Undergraduate Researcher
* Research in causal relationships, fluent extraction, and causal learning
* Implemented detection + tracking modules in OpenCV for teaching robots to fold shirts
* Built fluent visualization modules to construct action grammars from raw robot data
* Submitted paper to Neural Information Processing Systems (NIPS) conference

CS 88S: Undergraduate Student Initiated Education (USIE)
September 2016 - present

Instructor
* Designed a 10-week undergraduate computer science seminar designed to introduce students to cybersecurity fundamentals & protecting themselves in cyberspace
* Topics included general introductions to: computer networking, cryptography, password cracking, wireless vulnerabilities, denial of service attacks

Jet Propulsion Laboratory
June 2015 - June 2016

Computer Vision Research Intern
* Spearheaded frame by frame tracking of IR multi-bandwidth images
* Achieved 90% accuracy in segmentation of images using neural network
* Published two papers at SPIE conferences

Work Experience

Workday
June 2016 - present

Application Development Intern
* Implemented tax location mapping reports as part of Workday 28 product release
* Created get/put APIs for Workday Web Services
* Actively involved in Workday's agile development pipeline

Taboola
March - June 2016
Software Engineering Intern
* Implemented user authentication system using React.js and Node.js
* Built modules to communicate with Taboola Backstage API from scratch

Daily Bruin
September 2014 - March 2016
Project Manager
* Spearheaded complete redesign of Spectrum, Daily Bruin's online Photo Blog
* Led a team to build an interactive web application for UCLA's dorm communities
* Presented workshops on Sublime Text + Git tools for incoming Daily Bruin staff

Publications

Cross-correlation and image alignment for multi-band IR sensors
Kang (Frank) Chen, Andrew Luong, Mallory Dewees, Xinyi Yan, Thomas Lu, Tien-Hsin Chao, Edward Chow, Gilbert Torres
SPIE Optical Pattern Recognition XXVII 2016 | Baltimore, MA

Intelligent multi-spectral IR image segmentation
Kang (Frank) Chen, Andrew Luong, Stephen Heim, Maharshi Patel, Thomas Lu, Tien-Hsin Chao, Edward Chow, Gilbert Torres
Submitted to SPIE Optical Pattern Recognition XXIX 2017

Unsupervised learning of fluents from human demonstrations
Nishant Shukla, Yunzhong He, Kang (Frank) Chen, Song-chun Zhu
Submitted to Neural Information Processing Systems (NIPS) 2016

Honors and Awards

Upsilon Pi Epsilon Honor Society — March 2014 - present
Eta Kappa Nu Honor Society — March 2015 - present
True Bruin Distinguished Senior Finalist — November 2016
Gerald P. Popek Scholarship in Computer Science — January 2016
Harley L. Woods Family Scholarship — January 2015

Leadership

Resident Assistant — September 2015 - present
* Responsible for a floor of 90 residents in
   UCLA's residential dorms

IDEA Hacks Organizer — September 2015 - February 2016
* Sponsorship organizer for the largest
   hardware-focused hackathon in the West Coast

LA Hacks Organizer — January 2015 - present
* Operations organizer for the largest
   hackathon in the West Coast

Engineering Society of UCLA — September 2014 - June 2015
* External VP for the umbrella engineering club at UCLA

Bruin Entrepreneurs — September 2013 - June 2015
* Led incubator program for UCLA's student entrepreneurs