Frank Chen

989 112th Ave NE, Bellevue, WA 99004

Program Manager
Microsoft
Seattle, WA
www.kfrankc.me

frank.chen@g.ucla.edu
510-565-8237
LinkedIn: linkedin.com/in/kfrankc
Github: github.com/kfrankc

Interest

I am interested in data science and how it can be applied in program management (PM). I am currently a PM at Microsoft, and have conducted robotics/comp. vision research at JPL & UCLA.

Education

University of California, Los Angeles   Fall 2013 - Spring 2017

B.S. Computer Science, Henry Samueli School of Engineering & Applied Science
GPA: 3.42/4.0

Relevant Skills & Courses

Programming Languages: C/C++, MATLAB, Python, Javascript, OCaml, Flask, Octave, OpenCV

Courses: Intro to Machine Learning, Intro to AI, Mathematical Modeling, Scalable Internet Service, Computer Security, Computer Networks, Linear Algebra, Intro to Probability, Formal Languages & Automata, Databases, Algorithms, Data Structures

Academic Experience

Center for Vision, Cognition, Learning & Autonomy   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 learn a generative grammar model from raw robot data
* Submitted paper to the International Joint Conference on Artificial Intelligence (IJCAI)
* Submitted paper to Neural Information Processing Systems (NIPS) conference

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 paper on correlation optimization at SPIE 2016 conference in Baltimore, MA.
* Paper on neural network segmentation is in proceedings of the SPIE 2017 conference.

Work Experience

Microsoft   July 2017 - present

Program Manager
* Drive AI incident routing project in Enterprise Infrastructure Services
* Co-Lead for MACH Technology & Services Committee

Workday   June - September 2016

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

Teaching Experience

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

Seminar Instructor | Website: http://kfrankc.me/cs88s
* Designed a 10-week undergraduate computer science seminar to introduce students
  to cybersecurity fundamentals & protecting themselves in cyberspace
* Reached an international audience, with more than 1400 people subscribed to my weekly email
  updates on topics and relevant articles covered in the course
* Topics included general introductions to: computer networking, cryptography, password
  cracking, wireless vulnerabilities, denial of service attacks

The Coding School   September 2015 - January 2016

Student Instructor
* Organized computer science classes for middle school children on HTML/CSS/Javascript
* Spearheaded a lesson on Github & using that to host a personal website

Software & Notable Projects

Los Angeles Urban Crime Patterns - Data science project analyzing trends in LA crime patterns

Used crime data in the past 10 years from Los Angeles Sheriff website to analyze trends of crime patterns
in location, type, frequency, and day/month/year. Final project for CS 170A: Mathematical Modeling.
`http://kfrankc.me/files/CS170A_project.pdf`

NATCAR - Autonomous RC line-following car

Design, build, and race autonomous RC car on tracks marked by a 1''-wide white tape
Implemented computer vision, motor control, 3D-printing, & circuit design to build the RC car
1st place @ UC Davis NATCAR Competition 2015
`https://www.youtube.com/watch?v=Zx1SNIKpR9Y`

FluentVisualizer - Visualizing high-dimensional robot action data in a 3D space

Designed a web UI to visualize fluent changes in a robot's arm movement using t-Distributed Stochastic
Neighborhood Embedding, decomposing 7-dimensional data into 3 dimensions.

Perfusion Angiography Visualization - Visualize blood flow in angiography videos

Designed a breadth-first-search algorithm to intelligently generate vector fields that follow blood vessel
flow in perfusion angiography video frames, and export data to Javascript renderer to visualize blood flow
in a web UI.
`https://kfrankc.me/cs188/`

DJ Set Review w/ Data - Understand how DJs prepares their set using music data

Reviewed the methods and techniques The Chainsmokers used to prepare their set piece at Ultra Music Festival 2016 by analyzing the bpm, bass drop intensity, and time variation between mixes using Highcharts.js.

`https://kfrankc.me/chainsmokers/`

Publications & Presentations

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, MD

Intelligent multi-spectral IR image segmentation

Kang (Frank) Chen, Andrew Luong, Stephen Heim, Maharshi Patel, Thomas Lu, Tien-Hsin Chao, Edward Chow, Gilbert Torres
SPIE Optical Pattern Recognition XXIX 2017 | Anaheim, CA

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

Learning Human Utility from Video Demonstrations for Deductive Planning in Robotics

Nishant Shukla, Yunzhong He, **Kang (Frank) Chen**, Song-chun Zhu
Accepted at The International Conference on Robot Learning (CoRL) 2017

Visualizing Human Utility from Video Demonstrations for Deductive Planning in Robotics

Kang (Frank) Chen, Nishant Shukla, Song-chun Zhu
UCLA Undergraduate Research Poster Day. Research Poster

Intelligent Image Processing and Feature Extraction from Multiple IR Video Images

Kang (Frank) Chen, Andrew Luong, Mallory Dewees, Xinyi Yan
JPL Summer Research Symposium, August 2015. Pasadena, CA. Section Presentation

Intelligent IR Image Correlation and Segmentation

Kang (Frank) Chen, Andrew Luong, Kevin De Jesus, Maharshi Patel
JPL Winter Research Symposium, December 2015. Pasadena, CA. Section Presentation

Honors and Awards

Upsilon Pi Epsilon Honor Society	March 2014 - present
Eta Kappa Nu Honor Society	March 2015 - present
Henry M. Showman Prize in Undergraduate Research	May 2017
Engineering Achievement for Student Welfare	May 2017
2017 Engineering Commencement Student Speaker	May 2017
Eric & Peggy Johnson Scholarship in Engineering	January 2017
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
* Mentorship + 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