

## Kenneth Lee

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### CONTACT INFORMATION

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<https://kenneth-lee-ch.github.io>

### RESEARCH INTERESTS

Machine learning, high-dimensional statistics, casual inference, data mining, optimization.

### EDUCATION

#### Brigham Young University—Hawaii

B.S. Mathematics, Computer Science

2014 - 2018

- Minors: Information Systems, Information Technology
- Honors Thesis: *An Evaluation of Blind Reconstruction Methods of the Dynamical Structure Functions*
- Advisor: Vasu Chetty
- GPA: 4.0/4.0

### RESEARCH EXPERIENCE

#### Brigham Young University—Hawaii Institutional Research

Research Analyst Intern

Aug 2018 - Present

- *Data Visualization*: Built pipelines to update Tableau Server workbooks automatically from Quartics surveys.
- *Database Management*: Coordinated with the Enterprise Information System department at BYUH to establish a data warehouse to facilitate institutional research.
- *Data Cleaning*: Trained and supervised students workers on the data cleaning and visualization with R and Tableau.
- *Consulting*: Planned and conducted research to assist with accreditation, university assessment, and President's Council inquiries.
- Status: Part-Time
- Working hours: 27 hours per week

Research Assistant Supervisor

Sept 2017 - Jun 2018

- *Data Visualization*: Built a data dashboard from cleaning course evaluation survey data of the past 5 years in R to visualizing the data via Tableau for the school administration and faculty.
- *Statistical Analysis*: Evaluated the redundancy of the graduating student survey questions by using factor analysis.
- *Survey Design*: Led a poster publication titled *"How Meaningful Is Our Graduating Student Survey"* to showcase how to better evaluate survey design.
- Status: Part-Time
- Working hours: 19 hours per week

#### Brigham Young University IDEA Lab

Researcher Intern

Jun - Aug 2017

- *Systems Theory*: Research in Systems and Control Theory with applications in a variety of areas including social networks, natural language processing, and biological systems.
- *Software Engineering*: Tasks involve developing code, modeling networks, analyzing simulations, developing theoretical results and writing research papers.
- Advisor: Sean Warnick
- Status: Full-Time

- Working hours: 40 hours per week

## PROJECTS

### Predict Patient Inflow at Pali Momi Hospital's Emergency Room

- *Machine Learning*: Applied quantile regression model to predict patient inflow at Pali Momi Hospital's Emergency Room (ER).
- *Consulting*: Provided recommendations for how to optimize scheduling for their ER's doctors and mid-level providers.
- Duration: Apr-Jun 2018
- Number of hours per week of effort: 2
- Advisor: Cody Baldwin

### Understanding the resting behaviors of Trirectangular Tetrahedral and Triangular Prism Dice Rolls

- *Computer Vision*: Trained a histogram of oriented gradients feature descriptor in Python to count dice rolls more efficiently by object detection.
- *Robotics*: Configured a dice rolling machine from scratch to automate the process of dice rolling and reduce bias that may come from rolling dice by hands.
- *Software Engineering*: Rewrote codes from MATLAB image processing toolbox to Python using OpenCV, scikit-image and dlib libraries.
- Duration: 2017- Present
- Number of hours per week of effort: 3
- Advisor: Paul Hurst

## PUBLICATIONS

### Conference Proceedings

V. Chetty, N. Woodbury, J. Brewer, **K. Lee** and S. Warnick, *Applying a Passive Network Reconstruction Technique to Twitter Data in Order to Identify Trend Setters*, IEEE Conference on Control Technology and Applications, Kohala Coast, HI, 2017.

### Posters

**K. Lee**, K. Pulu, *Graduating Student Survey Revision: A student effort*, California Association for Institutional Research, Garden Grove, CA, 2018.

K. Pulu, **K. Lee**, T. Vallabh, Hong Ni M. and R. Ram, *How Meaningful is our Graduating Student Survey?*, Academic Resource Conference, Burlingame, CA, 2018.

## PRESENTATIONS

**K. Lee**, S. Fuluvaka, *Meet Don, the Autonomous Dice Rolling Machine*, Brigham Young University-Hawaii Undergraduate Research Conference, 2018.

**K. Lee**, *An Evaluation of Blind Reconstruction Methods of the Dynamical Structure Functions*, Senior Research Presentation, Department of Computer Science, Brigham Young University-Hawaii, 2018.

SELECTED HONORS	<b>Brigham Young University—Hawaii</b>	
	Computer and Information Science Overall Outstanding Graduate	2018
	<b>(Top 1% of the graduating class)</b>	
	Undergraduate Research Best Oral Presentation Award	2018
	<b>(1 out of 30 peer research teams)</b>	
	Computer Science Alumni Scholarship	(Nominated by faculty) 2017 - 2018
	Mathematics Departmental Scholarship	(Nominated by faculty) 2014 - 2018
	Academic Merit Scholarship	(Top 5% of the school) 2014 - 2018
	University Dean's List	(Top 5% of the school) 2014 - 2018
	Hong Kong Student Association Leadership Certificate	2015 - 2016
	BYUH Student Leadership Award	2015
	<b>Association for Computing Machinery</b>	
VOLUNTARY EXPERIENCE	ACM/UPE Scholarship Award	(4 out of all the ACM student members) 2017
	<b>The National Society of Leadership and Success</b>	
	Academic Excellence Scholarship	(12 out of all the NSLS inducted members) 2017
	<b>Brigham Young University—Hawaii</b>	
	Hong Kong Student Association President	2015 - 2016
	<ul style="list-style-type: none"> <li>Increased the membership from 50+ to 100+ in one year.</li> <li>Led my association to perform on a stage in front of 3000+ audience at an annual event called <i>Culture Night</i> at BYUH.</li> <li>Organized 30+ small and large events such as <i>speed dating</i>, <i>food festival</i>, career and networking workshop for members.</li> <li>Status: Part-Time</li> <li>Working hours: 10 hours per week</li> </ul>	
	<b>Hong Kong Student Association Vice President</b>	
	<ul style="list-style-type: none"> <li>Created a menu to earn profit \$1000+ from annual <i>food festival</i> event for the association in one night.</li> <li>Status: Part-Time</li> <li>Working hours: 10 hours per week</li> </ul>	
	<b>The Church Of Jesus Christ of Latter-Day Saints</b>	
	Missionary	2012 - 2014
	<ul style="list-style-type: none"> <li>Appointed to lead and provide training to groups of up to 30 other missionaries.</li> <li>Gained experience in interpersonal skills by sharing the message of Jesus Christ via means of cold calls, street contacts, and visiting people in their homes.</li> <li>Status: Full-Time</li> <li>Working hours: 112 hours per week</li> </ul>	
TEACHING EXPERIENCE	<b>Brigham Young University—Hawaii</b>	
	Computer Science Substitute Instructor	2017
	<ul style="list-style-type: none"> <li>Taught my 30+ peers two lectures about difference equations.</li> </ul>	
	<b>Math Lab Tutor</b>	
	<ul style="list-style-type: none"> <li>Provided tutoring services to classes of Calculus I, Calculus II, Multivariate calculus.</li> </ul>	

PROFESSIONAL AFFILIATIONS	The National Society of Leadership and Success, Member	2017 - Present
	Phi Kappa Phi, Member	2016 - Present
	Association of Computing Machinery, Member	2016 - Present
	Upsilon Pi Epsilon, Member	2016 - Present
SKILLS	<i>Languages:</i> Python, R, MATLAB, SQL, C#, C, C++, PHP, Ruby, Java <i>Framework:</i> OpenCV, Scikit-learn, TensorFlow, Dlib, Pytorch <i>Others:</i> Tableau, AWS EC2, AWS Dynamodb, AWS S3	