Kenneth Lee

CONTACT INFORMATION

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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
- Supervisor: Kathy Pulotu

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
- Supervisor: Kathy Pulotu

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

K. Pulotu, **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

Brigham Young University—Hawaii

Computer and Information Science Overall Outstanding Graduate **(Top 1 of the graduating class)**	2018
Undergraduate Research Best Oral Presentation Award **(1 out of 30 peer research teams)**	2018
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

Association for Computing Machinery

ACM/UPE Scholarship Award **(4 out of all the ACM student members)**	2017

The National Society of Leadership and Success

Academic Excellence Scholarship **(12 out of all the NSLS inducted members)**	2017

Voluntary Experience

Brigham Young University—Hawaii

Hong Kong Student Association President — 2015 - 2016

- Increased the membership from 50+ to 100+ in one year.
- Led my association to perform on a stage in front of 3000+ audience at an annual event called *Culture Night* at BYUH.
- Organized 30+ small and large events such as *speed dating*, *food festival*, career and networking workshop for members.
- Status: Part-Time
- Working hours: 10 hours per week

Hong Kong Student Association Vice President — 2014 - 2015

- Created a menu to earn profit $1000+ from annual *food festival* event for the association in one night.
- Status: Part-Time
- Working hours: 10 hours per week

The Church Of Jesus Christ of Latter-Day Saints

Missionary — 2012 - 2014

- Appointed to lead and provide training to groups of up to 30 other missionaries.
- 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.
- Status: Full-Time
- Working hours: 112 hours per week

Teaching Experience

Brigham Young University—Hawaii

Computer Science Substitute Instructor — 2017

- Taught my 30+ peers two lectures about difference equations.

Math Lab Tutor — 2015 - 2016

- Provided tutoring services to classes of Calculus I, Calculus II, Multivariate calculus.

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

Languages: Python, R, MATLAB, SQL, C#, C, C++, PHP, Ruby, Java
Framework: OpenCV, Scikit-learn, TensorFlow, Dlib, Pytorch
Others: Tableau, AWS EC2, AWS Dynamodb, AWS S3