WAH LOON KENG

Box 7277, Lafayette College, 111 Quad Drive, Easton, PA 18042, USA
(484) 542-3520 kengw@lafayette.edu https://github.com/kengz

EDUCATION

Lafayette College, Pennsylvania expected December 2015
B.S. in Mathematics, Minor in Computer Science Overall GPA: 3.88

RESEARCHES & ENGINEERING

Singapore-ETH Smart Cities Lab August 2015
Software engineering and Road network research

· Backend graph theory optimizations in Java and Processing for the Shell Data Visualization Platform.

Lafayette College EXCEL Program Summer 2015
Computational Geometry with Dr. Ge Xia.

· Vertex Cover, a signature NP-hard problem. *In progress.*

Perimeter Institute for Theoretical Physics Summer Student Summer 2014
Quantum Foundations with Dr. Matthew Pusey and Dr. Tobiaz Fritz.

· Correlations in causal structure. Application of Quantum Computation and Information to the foundations of quantum mechanics.
Notes: `Correlations in C3` and `BlockCode and Bundled Form`, `W.L. Keng`.

Lafayette College EXCEL Program Summer & Fall 2013
Computational Geometry with Dr. Ge Xia.

· Delaunay Triangulation, graphs, spanner problems. Proved that the Yao-5 graph, useful in wireless networks, is a spanner, i.e. shortest distance always exists.
Published: `New and Improved Spanning Ratios for Yao Graphs`, `Barba et.al.`

PROJECTS (ON GITHUB)

`jarvis` - A powerful virtual assistant for startups/team projects; cloud-deployable and cross-platform.
`lomath` - Data analytics and math library for Node.js inspired by Lodash/Underscore.
`telegram-bot-bootstrap` - API wrapper for Telegram bot, with a cloud-deployable bootstrap.
`dokker` - Automated Node.js documentation generator.
`Risk-game` - Simple AI to play the game Risk, with statistical analysis for Math 375.
`Machines` - Implementation of Turing Machines, PDA, NFA, DFA, with a theoretical thesis on the link between their memories and powers.

EMPLOYMENT

Data Analysis, Automation, HTML Email Research, Fulcrum Tech, Inc 2014 - Present
Physics/Math Supplemental Instructor/Grader, Lafayette College 2012 - Fall 2015
Graphic Designer and Proctor, Lafayette College Foreign Languages Dept. 2014 - 2015

LANGUAGES

Computer Proficient: `Java, C++, Node.js, R, HTML/CSS/Sass, Mathematica`
Intermediate: `Python, PostgreSQL, Matlab`
Spoken Fluent: English, Chinese, Malay, Cantonese, Hokkien

TECHNICAL COURSES

Freshman

MATH 263 Calculus III (A)
MATH 264 Differential Equations (A)
MATH 312 Partial Differential Equations (A)
PHYS 151 Accelerated Physics (A)
PHYS 218 Oscillatory & Wave Phenomena (A)

Sophomore

MATH 290 Transition of Theoretical Math (A)
MATH 300 Vector Spaces (A)
MATH 356 Real Analysis I (B+)
PHYS 342 Electromagnetic Fields (A)
PHYS 351 Quantum Theory (A)
PHYS 327 Advanced Classical Mechanics (A)
PHYS 338 Advanced Physics Lab (A)

Junior

CS 150 Data Structures and Algorithms (A)
CS 205 Software Engineering (A)
CS 303 Theory of Computation (A)
MATH 351 Abstract Algebra (A-)
MATH 358 Topology (B)
MATH 391 Adv. Multivariable Calculus (A)
MATH 335 Probability (A)

Anticipated (Fall 2015)

CS 202 Advanced Algorithms
CS 420 Artificial Intelligence
MATH 375 Fixed & Mixed Effect Models
MATH 400 Senior Project: Machine Learning

AWARDS

Lafayette College Benjamin F. Barge Mathematical Prize 2014
Second, Third - *Lafayette College Barge Math Competitions* 2013 - 2014
Second - *LVAIC Regional College Math Competition* 2012
Dean's List - *Lafayette College* 2012 - 2014
Gold, Top 5 team - *National Physics Competition, Malaysia* 2010
Gold - *ICAS International Math Competitions, University of New South Wales* 2009