WAH LOON KENG

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EDUCATION

Lafayette College, Pennsylvania expected May 2016
B.S. in Mathematics, Minor in Computer Science Overall GPA: 3.88

RESEARCHES

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 physics.
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. short distance always exists.
Published: `New and Improved Spanning Ratios for Yao Graphs, Barba et.al.`

PROJECTS (ON GITHUB)

`lomath` - Data analytics, math module for NodeJS inspired by Lodash/Underscore.

`loML` - A machine learning module in NodeJS, powered by lomath.

`telegram-bot-bootstrap` - A NodeJS bootstrap for Telegram bot with full API support, deployable to to Heroku and Google Compute/App Engine.

`dokker` - Automated JS code documentation generator.

`Risk-game` - Simple AI to play the game Risk, with statistical analysis.

`Machines` - Implementation of Turing Machines, PDA, NFA, DFA, with a theoretic thesis on the power of these machines.

WORK EXPERIENCE

Data analysis, automation, Fulcrum Tech, Inc 2014 - Present
Graphic Designer and Proctor, Lafayette College Foreign Languages Dept. 2014 - Present
Physics Student Grader, Lafayette College 2012 - Present
Physics Supplemental Instructor, Lafayette College Spring 2014

LANGUAGES

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

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 Applied Fixed and Mixed Effect Models

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