

WAH LOON KENG

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EDUCATION

Lafayette College, Pennsylvania

B.S. in Mathematics, Minor in Computer Science

expected May 2016

Overall GPA: 3.88

RESEARCHES

Lafayette College EXCEL Program

Computational Geometry with Dr. Ge Xia.

Summer 2015

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

Perimeter Institute for Theoretical Physics Summer Student

Quantum Foundations with Dr. Matthew Pusey and Dr. Tobias Fritz.

Summer 2014

- 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

Computational Geometry with Dr. Ge Xia.

Summer & Fall 2013

- 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)

[lomath](#) - Data analytics, math module for NodeJS inspired by Lodash/Underscore.

[loML](#) - A machine learning module for NodeJS, powered by lomath.

[jarvis](#) - A powerful butler bot for startups/team projects; cloud-deployable and cross-platform.

[telegram-bot-bootstrap](#) - A bootstrap for Telegram bot with full API support, cloud-deployable.

[dokter](#) - 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 theoretical thesis on the link between their memories and powers.

EMPLOYMENT

Data Analysis, Automation, HTML Email Research, Fulcrum Tech, Inc

2014 - Present

Graphic Designer and Proctor, Lafayette College Foreign Languages Dept.

2014 - Present

Physics Supplemental Instructor/Grader, Lafayette College

2012 - Spring 2014

LANGUAGES

Computer Proficient: Java, C++, NodeJS, HTML/CSS/Sass, Mathematica

Basic: R, Python, Matlab

Spoken Fluent: English, Chinese, Malay, Cantonese, Hokkien

ENTREPRENEURSHIP AND LEADERSHIP

GLOBAL HACKERS

Co-creator

- A tight network of social entrepreneurs, engineers, business development consultants, healthcare advocates, and researchers, collaborating on startups together, connected by a common goal to ameliorate global social issues through technology and innovation.

Splory by Splore Inc.

Co-founder, Creative Director

- A Malaysian startup - a [social hangout application](#) that streamlines event-scheduling with friends, with a built-in network of local businesses for recommendations.

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 & Mixed Effect Models

AWARDS

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