

Timothy K. Paine

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Education

Columbia University - Columbia College/School of Engineering and Applied Sciences (SEAS) Combined Plan

- B.A. in Computer Science/Mathematics - Columbia College '14
- B.S. in Computer Engineering - SEAS '15
- Concentrations in East Asian Languages and Cultures, Physics
- Rigorous Schedule of Classes (Avg: 7-10/semester, ~25 credits)
- Cumulative GPA: **3.77 B.A.**, **3.75 B.S.**, Columbia College Dean's List (>3.6), SEAS Dean's List (>3.5)

Sophia University in Tokyo, Japan

Summer 2011

New Providence High School '10

- Salutatorian, 16 Consecutive Marking Periods (All) of High Honor Roll Status

Experience

New York, NY

- **Credit Suisse** (Equities/Quantitative Analyst Intern) **Tokyo, Japan - Summer 2014**
 - Mined Bloomberg company data to model company performance (in terms of things like accuracy of their reports)
 - Modeled price movement and built predictions for 1-30 days in the future. Analyzed time series using wavelet analysis.
- **IBM** (Software Group Intern) **Dublin, OH - Summer 2013**
 - Worked on IBM's Multi-Enterprise gateway project as part of the suite of B2B business oriented software
 - Experience included enterprise java programming, as well as python, javascript, and HTML/CSS
 - Gained experience in Agile development methodology working for a large multinational company
- **Architecture and Design Lab** (research with Professor Martha Kim) **Summer 2012 - Present**
 - Model various SQL functions in Verilog
 - Synthesize the models to produce area, power, and timing numbers. We then use this data in our model of a data processing unit for use with hardware accelerators
 - Currently developing a NoC design to begin modeling whole-chip behavior
 - Perform and test FPGA prototyping
- **Columbia University Teaching Assistant** - Computer Science Department **Fall 2012 - Present**
 - Advanced Programming **Spring 2013, Fall 2013**
 - Fundamentals of Computer Systems **Fall 2013**
 - Introduction to Combinatorics and Graph Theory **Fall 2012**
 - Introduction to Programming for Scientists and Engineers **Spring 2014**
- **Columbia University Tutor** **Fall 2012 - Present**
 - Ordinary Differential Equations
 - Fundamentals of Computer Systems
- **Jack Wills University Seasonnaire** **Fall 2013 - Present**
- **Watchfire Music** - Live Sound Producer **Fall 2010 - Summer 2011**

Activities

New York, NY

- **Beta Theta Pi Fraternity** **Fall 2011 - Present**
 - Helped expand the chapter from 20 members to more than 45
 - Organized various philanthropic and educational events, including charity concerts, volunteer work in Harlem and the Bronx, and guest lectures by Columbia faculty, such as world renowned Professors Donald Keene and William Theodore de Bary.
 - House manager of our 114th Street Brownstone
 - Attended various leadership conferences and leadership training events.

Positions Held:

 - Vice President, Treasurer, Recruitment Chair (2 Terms), House Manager, InterFraternity Council Representative, Webmaster,
 - Attended the Keystone Leadership Conference
- **Columbia Judo Club** **Spring 2013 - Present**
 - Vice President
- **Knickerbocker Motorsports**, Formula Society of Automotive Engineers (FSAE) **Spring 2011 - Present**
 - Worked on securing partnerships with sponsors
 - Have taken a hands-on role with the electronics of our Formula Race car
- **Columbia Japan Society** **Fall 2013 - Present**
 - Webmaster
 - Organizational Committee Member

Additionally, I am a current or past member of the following clubs/societies/groups: Order of Omega Honor Society, IEEE, Application Development Initiative (ADI), Columbia International Relations Council, Association for Computing Machinery (ACM), Columbia Undergraduate Math Society, Brazilian Jazz Ensemble (Guitar), Afro-Cuban Jazz Ensemble (Guitar), Afro-Columbia Jazz Ensemble (Guitar), Columbia Ski Team

Skills/ Relevant Courses

Programming:

Proficient -- Java, C, C++, Python, Verilog, R

In Progress -- Matlab, Javascript, VHDL, X10 (IBM), OCaml, C#, Ruby, Clojure, Perl, Lua

Web Development -- HTML/CSS, Flask, Django, 10x (IBM)

Environment/tools -- *nix, Os X, Windows, Microsoft Office, VBA, Latex, Git, Svn, Hg, Github/Bitbucket, Agile, Bloomberg

Database -- Oracle, IBM DB2, Apache Derby, Postgres, MongoDB

Skill set: Experience in Algorithm Analysis, Networks, Databases, Complexity Theory, and Computer Architecture

Relevant Courses: ODE, PDE, Advanced Programming, Algorithms, Combinatorics and Graph Theory, Principles of Economics, Operating Systems, Advanced Logic Design, Embedded Systems, Business Japanese

Publications

[1] L.Wu, A. Lottarini, T. Paine, M. Kim, K.Ross "Q100: The Architecture and Design of a Database Processing Unit."

ASPLOS 2014: Nineteenth International Conference on Architecture Support for Programming Languages and Operating Systems.

Awards

- Theodore R. Bashkow Award 2014 - **Columbia University Computer Science Department**
"For a Computer Science senior who has excelled in independent projects"
- Margarete E. Kennedy Estate Scholarship - **Columbia University**

Pre-college Honors and Competitions

- National Merit Finalist and Scholarship Winner**
- National Honor Society, Spanish National Honor Society, Japanese National Honor Society
- Edward J. Bloustein Distinguished Scholar
- AP Scholar
- All State Jazz Ensembles (Guitar)
- New Jersey Youth Symphony (Violin)
- YMCA Northeast Model United Nations**
 - A yearly weekend long conference held in Hershey Park, PA, and attended by around 1600 high schools students from several mid-atlantic states.
 - In my several years attending, I chaired two committees, and was elected in 2009 to lead the next year's conference as the Secretary General. In charge of 40 committees and 1600 delegates, I directed the other officers, assisted in the planning of several major programs, including both a weekend-long charity drive and a mock "crisis" scenario.
 - Through this program, I not only developed strong public speaking skills (debating in front of 1600 high school students is a daunting experience), but also learned critical leadership skills, as well as gained a more global perspective.
 - I was chosen to attend a conference of the youth-elected governors from 46 states, representing the UN, in Washington, DC, where I spoke with congresspeople, senators, lobbyists, and other leaders in the capitol.
 - I attended CONA, a weeklong conference of the premier delegates from the various state Youth and Government programs, where we debated mock legislation concerning the nation's most pressing issues.

Positions Held:

- Secretary General (Elected) *Fall 2009 - Spring 2010*
- Vice Chair - European Union (Elected) *Fall 2008 - Spring 2009*
- Vice Chair - General Assembly (Elected)
- Conference on National Affairs (CONA) Selectee *Summer 2008, Summer 2009*
- Youth Governor's Conference Attendee *Summer 2009*
- YMCA New Jersey Youth and Government** *Fall 2007 - Spring 2010*
- Junior Engineering Technical Society (JETS)** Best in State (NJ) *2010*
- Panasonic Creative Design Challenge - Finalist *2009, 2010*

References

Martha Kim, Ph.D.

Assistant Professor - Department of Computer Science - Columbia University

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Dave Ogle, Ph.D.

IBM Distinguished Engineer - Columbus, OH lab

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