

Timothy K. Paine

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Education

Columbia University in the City of New York — New York, NY

Fu Foundation School of Engineering and Applied Sciences

M.S. in Computer Engineering — 2015

B.S. in Computer Engineering, *Magna Cum Laude* — 2015

Columbia College

B.A. in Computer Science/Mathematics — 2015

Sophia University — Tokyo, Japan — Summer 2011

Work Experience

J.P. Morgan

Athena Core Developer

March 2016 - Present

Develop real time analytics platforms (**Python, C++, Java, Javascript**)

Third Party Integrations (Jupyter, Zipline, Pyfolio, Theano, Tensorflow)

Library build systems (Intel icc/fort, mkl, VTune, gcc, ATLAS)

MayStreet

Software Engineer

July 2015 - January 2016

Developed low latency market data and order entry systems for

North American, European, and Asian exchanges (**C++, C#, Java**)

Developed market data analytics platforms for analyzing market

micro-structure via colo-captured pcap data (**Python, C++, and R**)

Columbia University

Adjunct Associate Professor

Summer 2015 - Present

ENGI1006 Introduction to Computing for Scientists and Engineers (**Python**)

COMS3101 Programming Languages - **Python**

COMS3101 Programming Languages - **C++**

COMS1005 Introduction to Computer Science and Programming in **Matlab**

COMS3136 Essential Data Structures in **C** and **C++**

Credit Suisse

Equities/Quantitative Analyst Intern – Tokyo, Japan

Summer 2014

Built predictive models for company earnings and price movement

Leveraged data mining, machine learning, and wavelet analysis (**R, Python**)

IBM

Software Group Intern

Summer 2013

Developed and tested front ends for B2B applications (**Python, javascript**)

Gained experience in Agile development methodology

Columbia University

Teaching Assistant

Fall 2012 - Spring 2015

Advanced Programming (**C, C++**)

Computer Architecture

Fundamentals of Computer Systems

Introduction to Combinatorics and Graph Theory

Introduction to Computing for Scientists and Engineers (**Python**)

Projects

Architecture and Design Lab

Researcher

Summer 2012 - Spring 2015

Hardware Design/Verification/Synthesis and FPGA prototyping of a database accelerator
(**Verilog**, **SystemVerilog**, **Altera** toolchain and FPGAs, **Synopsys** synthesis tools)

Computer Architecture and Security Technology Lab

Researcher

Fall 2014 - Spring 2015

Built a hybrid HW/SW Cryptography unit in SystemVerilog targeting a custom FPGA board
(**SystemVerilog**, **Altera** toolchain and FPGAs)

Embedded Scalable Platforms

Fall 2014 - Spring 2015

Built a Hardware Accelerator for Latent Dirichlet Allocation in SystemC
(**SystemC**, **Xilinx** toolchain and FPGAs, **Cadence** CtoS/Cynthesizer/Stratus)

Facebook Open Academy

OpenStack Team

Spring 2014

Built two-factor authentication for OpenStack's Keystone Identity Service
Integrated two-factor authentication with OpenStack's Horizon UI and dashboard
(**Python**)

Current projects can be found at <http://tim.paine.nyc>

Publications

Q100: The Architecture and Design of a Database Processing Unit.

L.Wu, A. Lottarini, T. Paine, M. Kim, K.Ross

ASPLOS 2014: Nineteenth International Conference on Architecture Support for Programming Languages and Operating Systems. **IEEE Micro Top Pick**.

Awards/Honors

Theodore R. Bashkow Award

Columbia University Computer Science Department — 2014

MSTA Fellowship

Columbia University — 2015 — Full Tuition for Master's Degree

Jerry and Evelyn Bishop Scholarship

Columbia University — 2015

Margarete E. Kennedy Estate Scholarship

Columbia University — 2010

Japan Student Services Organization (JASSO)

Sophia University — 2011

National Merit, Advanced Placement, and other pre-college honors
Please see <http://tim.paine.nyc>

References

Available upon request