John Hui

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EDUCATION	**Columbia University**, Graduate School of Arts and Sciences	New York, N.Y.
	Ph.D. in Computer Science	Fall 2018 – Spring 2019
	Advisor: Prof. Ronghui Gu	
	Columbia University, School of Engineering and Applied Sciences	New York, N.Y.
	M.S. in Computer Science	Fall 2018 – Spring 2019
	Columbia University, Columbia College	New York, N.Y.
	B.A. in Computer Science	Fall 2014 – Spring 2018
	Honors: Phi Beta Kappa, *summa cum laude*	

RESEARCH EXPERIENCE

Reactive Atomic Transitions Fall 2018 – present
Collaborators: Prof. Stephen Edwards, Prof. Ronghui Gu
- End-to-end verified OS with abstract hard real-time execution and communication
- Formalized temporal dataflow semantics for characterizing real-time computation
- Designed optimal real-time scheduling policy using dynamic priority inference

Functional Hardware Inference Spring 2018 – Fall 2018
Collaborators: Prof. Stephen Edwards, Amanda Liu
Adapted Hindley-Milner to infer data parallelism in Haskell-to-SystemVerilog compilation

Android Epoxy Fall 2017 – Spring 2018
Collaborators: Alex Van't Hof, Prof. Jason Nieh
Modified Android Binder IPC to support communication over TCP/IP

TEACHING EXPERIENCE

Operating Systems *Teaching Assistant* Spring {2017,2018,2019}
- Designed and wrote solutions for virtual memory assignment
- Wrote guides and tutorials for Linux kernel development

Programming Languages and Translators *Teaching Assistant* Fall 2018
- Advised teams on their language design and compiler project in OCaml

Advanced Programming *Teaching Assistant* Spring 2016, Fall {2016,2017,2018}
- Developed tooling for automated grading and course management

INDUSTRY EXPERIENCE

WhatsApp Menlo Park, C.A.
Software engineer intern, Media Server team Summer 2017
- Deployed end-to-end distributed monitoring service
- Developed alarm configuration framework with extensible API

Symphony Communications New York, N.Y.
Backend intern, Core Services team Summer 2015
- Automated local Docker and Vagrant integration tests
- Designed Java Annotation library for database-agnostic data transport

NON-TECHNICAL

Musical Director, Columbia Kingsmen Spring 2015 – Spring 2018
- Columbia's oldest, all-male doo wop a cappella group
- Led rehearsals, wrote arrangements, conducted performances