

# SAMUEL WARNER HINCKS

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## EDUCATION

**Tufts University** – *M.S. in Computer Science, PhD Expected 2018*

GPA: 4.0 / 4.0    Relevant Courses: Machine Learning, Predictive Mind, Visualization, and Cognitive Science

Master's project: *A Google Glass Application that Adapts Information Delivery Based on Brain Activity*

- Won 1<sup>st</sup> place, a \$7,500 prize, in 2014 in Tufts Ricci Entrepreneurship competition.

**Hamilton College** – *B.A. in Computer Science – May 2011*

Summa Cum Laude, ΦBK (Phi-Beta-Kappa)

GPA: 3.9/4.0    Concentration GPA: 3.8    Dean's List: seven semesters    Class Rank: 21 / 500

Honors Thesis: "Data Mining Schemes that Decipher Neural Activity"

- Won 1<sup>st</sup> prize for best research at ACM's 2011 Northeastern Collegiate Conference for Computing Sciences

Relevant Courses: A.I., Compilers, Data Structures, Operating Systems, Computer Organization, Programming Languages, H.C.I, Algorithms, Memory and Cognition, and Statistics

## WORK EXPERIENCE

**Software Engineer Intern**, *Google; Mountain View, CA; Summer 2017*

- PhD Tech Intern for the Web Audio API team of Google Chrome, building digital audio effects and instruments
- Implemented use cases for the Audio Worklet Node, including a Noise Gate and Bitcrusher

**Graduate Teaching Assistant**, *Computer Science Department at Tufts University; Medford, MA; Spring 2013 - Present*

- Ran review sessions, hosted office hours, and graded exams and weekly assignments in *Discrete Mathematics*
- Graded exams and assignments as TA in four *Machine Structure and Assembly Language* courses; implemented and executed rigorous testing scripts to expose bugs in student code.
- Hosted office hours, graded papers and exams in two sessions of Daniel Dennett's *Foundations of Cognitive Science*.

**Graduate Research Assistant**, *Robert Jacob's HCI Lab at Tufts University; Medford, MA; Spring 2013 - Present*

- Wrote grant-application for and participated in *Google Glass Academic Explorer* program; attended early Glass workshops in Boston and Zurich; built glass interfaces that suppressed notifications based on user workload
- Evaluated physiological interfaces in a controlled laboratory study, culminating in papers, posters, and attendance in Human-Computer Interaction conferences (CHI-Toronto 2014, UIST-Hawaii 2014, CHI-San Jose 2016)
- Built machine learning toolkit in Java for physiological sensor data, wrapped in a user interface supporting data-visualization functions implemented in D3 — code which secured renewed funding with research sponsor

**Research Engineer**, *Speech Department at Royal Institute of Technology; Stockholm, Sweden; Summer, 2012*

- Wrote Java back-end that organizes dialogue together with web-socket-integrated speech recognition software

**Contractor**, *Hirshfield LLC; Clinton, New York – Winter, Spring 2012*

- Wrote scripts for fNIRS-based biometric identification in 4-day 50-person experiment

**Assistant Researcher**, *Computer Science Department at Hamilton College; Clinton, New York; Summer 2009, 2010*

- Created data mining software for brain sensors EEG and fNIRS and GSR sensor in Java.

## FIRST AUTHOR PUBLICATIONS

- "Using fNIRS for Real-time Cognitive Workload Classification", HCII 2015
- "Towards Bidirectional Brain-Computer Interfaces" PhyCS 2017
- "Entropic Brain-Computer Interfaces", PhyCS 2017
- "Anti-Correlated Networks in fNIRS Data", To be submitted to Frontiers in Neuroscience

## OTHER PUBLICATIONS

- "This is Your Brain on Interfaces: Enhancing Usability Testing with Functional-Near Infrared Spectroscopy", CHI 2011
- "Trust in Human-Computer Interactions as Measured by Frustration, Surprise, and Workload", HCI 2011
- "Brain-Based Target Expansion", UIST 2014
- "Dynamic difficulty using brain metrics of workload", CHI 2014
- "Designing Implicit Interfaces for Physiological Computing", TOCHI 2015
- "Phylter: A System for Modulating Notifications in Wearables Using Physiological Sensing", HCII 2015

## PROGRAMMING LANGUAGES

Java, R, Javascript, HTML, CSS, C++, Python, Matlab, Lisp, C

## LANGUAGES

Native speaker of Swedish and English; basic oral and written French and Chinese (Mandarin)