DR. SAMUEL WARNER HINCKS

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EDUCATION

Tufts University – *M.S. and PhD in Computer Science*
GPA: 4.0 / 4.0   Relevant Courses: Machine Learning, Predictive Mind, Visualization, and Cognitive Science
Dissertation: *A Physical Paradigm for Bidirectional Brain-Computer Interfaces*
Master's project: *A Google Glass Application that Adapts Information Delivery Based on Brain Activity*
- Won 1st 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 1st 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 semesters 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)