KYLE W SINGLETON
CURRICULUM VITAE

CONTACT INFORMATION

Los Angeles, CA
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EDUCATION

University of California, Los Angeles — Los Angeles, CA
Doctor of Philosophy in Biomedical Engineering — 2016

University of Virginia — Charlottesville, VA
Bachelor of Science in Biomedical Engineering, Minor in Computer Science — 2006

DISSERTATION

Investigating Predictive Disease Model Transportability through Cohort Simulation and Causal Analysis
Advisors: Alex A.T. Bui and William Hsu

PROFESSIONAL EXPERIENCE

Graduate Student Researcher — 2013 - 2016
UCLA Medical Imaging Informatics, Los Angeles, CA

- Supervised team of three graduate students, reviewing clinical and imaging data from UCLA medical records.
- Created a retrospective dataset from 500+ UCLA brain cancer cases.
- Employed lung and brain cancer data from public data repositories (National Lung Screening Trial and The Cancer Genome Atlas).
- Constructed and evaluated disease models of brain cancer survival.
- Implemented and evaluated a novel simulation approach for interpreting the transportability (external validity) of predictive models in independent patient cohorts.

National Library of Medicine Fellow — 2008 - 2013
UCLA NLM Medical Imaging Informatics Training Program, Los Angeles, CA

- Completed coursework in medical informatics, statistics, and machine learning.
- Programmed, deployed, and supported tablet-based surveying system used to collect medical data from 20,000+ patients in Los Angeles clinics.

Post-baccalaureate Fellow — 2006 - 2008
National Institutes of Health, Bethesda, MD
Section on Stroke Diagnostics and Therapeutics, NINDS

- Designed and implemented a new workflow to accelerate image use in stroke research tasks.
- Developed a 100 patient case MRI stroke atlas.

Undergraduate Researcher 2005 - 2006

Computational Systems Biology Lab, Charlottesville VA

- Identified critical metabolic reactions of Leishmania major parasite.
- Worked with two peers to combine data into a metabolic network reconstruction.

Summer Intern 2004

American Biosystems, Inc., Roanoke VA

- Performed market research and redesigned company website.
- Presented test of new product line against competing products at the 2004 Carilion Biomedical Institute (CBI) Business Plan Competition.
- Received $10,000 award and CBI office space for American Biosystems, Inc.

FELLOWSHIPS AND AWARDS

First Place Student Paper 2014
Knowledge Discovery and Data Mining Working Group (KDDM-WG)

Finalist 2014
AMIA 2014 Student Paper Competition

UCLA Graduate Student Researcher 2012 - 2016

NLM Biomedical Informatics Training Fellowship 2008 - 2012

NIH Postbaccalaureate Intramural Research Training Award 2006 - 2008

PROFESSIONAL ACTIVITIES

Memberships

Student Member, American Medical Informatics Association (AMIA) 2011-Present

Editorial Services

Student Reviewer, American Medical Informatics Association (AMIA) 2012-Present

PUBLICATIONS

RESEARCH PAPERS: PEER REVIEWED

Singleton KW, Speier W, Bui AAT, Hsu W. Motivating the Additional Use of External Validity: Examining Transportability in a Model of Glioblastoma Multiforme. AMIA Annu Symp Proc 2014.

Singleton KW, Bui AAT, Hsu W. Transfer and transport: incorporating causal methods for improving predictive models. J Am Med Inform Assoc 2014; amiajnl–2014–002968. doi:10.1136/amiajnl-2014-002968

Singleton KW, Hsu W, Bui AAT. Comparing Predictive Models of Glioblastoma Multiforme Built Using Multi-Institutional and Local Data Sources. AMIA Annu Symp Proc 2012; 2012: 1385–1392.

Singleton KW, Lan M, Arnold C, Vahidi M, Arangua L, Gelberg L, Bui AAT. Wireless Data Collection of Self-administered Surveys using Tablet Computers. AMIA Annu Symp Proc. 2011; 2011:1261-9.

RESEARCH PAPERS: SUBMITTED

Singleton KW, Smedley N, Rios Piedra EA, El-Saden S, Hsu W, Bui AAT. Challenges of Applying and Replicating Previously Reported Predictive Models.

Singleton KW, Bui AAT, Hsu W. Categorizing the Ability to Locally Adopt Published Predictive Models using Simulated Cohort Analysis.

ORAL PRESENTATIONS

Singleton KW. Assessing Predictive Disease Model Transportability through Lung and Brain Cancer Cohort Simulation. Seminar, City of Hope, Duarte, CA; July 2016.

Singleton KW, Speier W, Bui AAT, Hsu W. Motivating the Additional Use of External Validity: Examining Transportability in a Model of Glioblastoma Multiforme. AMIA Annual Symposium, Washington, DC; November 2014.

Singleton KW, Hsu W, Bui AAT. Comparing Predictive Models of Glioblastoma Multiforme Built Using Multi-Institutional and Local Data Sources. AMIA Annual Symposium, Washington, DC; November 2012.

Singleton KW, Lan M, Arnold C, Vahidi M, Arangua L, Gelberg L, Bui AAT. Wireless Data Collection of Self-administered Surveys using Tablet Computers. AMIA Annual Symposium, Washington, DC; November 2011.

Singleton KW, Lan M, Arnold C, Vahidi M, Arangua L, Gelberg L, Bui AAT. Wireless Data Collection of Self-administered Surveys using Tablet Computers. Annual National Library of Medicine Trainee Meeting, Washington DC, June 2011.

ABSTRACTS/POSTERS

Singleton KW, Garcia-Gathright JI, Burns B, Rocks K, Iglesias JE, Bui AAT, Aberle D. Semi-automated Medical Text and Image Selection for Multimedia Presentation at Tumor Board Reviews. 2009 Radiological Society of North America Conference, Education Exhibit, Invited December 2009, Chicago, Illinois.

Singleton KW, Schaewe TJ, Boscardin WJ, Luby M, Warach S, Kidwell CS, Alger JR. Representation of the NIH Stroke Scale with Probabilistic Diffusion Weighted Imaging Lesion Atlas. 2008 International Society of Magnetic Resonance in Medicine Conference, Oral Presentation, Invited May 2008, Toronto, Canada.

Kidwell CS, **Singleton KW**, Schaewe TJ, Luby M, Warach S, Alger JR. For the NIH Natural History of Stroke Investigators. Neuroanatomic Representation of NIHSS Sub-items Employing Acute Diffusion Imaging: Developing a Predictive Atlas of Clinical Outcome. 2008 International Stroke Conference, Poster Presentation, Invited February 2008, New Orleans, Louisiana.

TEACHING

GUEST LECTURER

BME 220 – Introduction to Medical Informatics	Fall 2012
BME 223A – Programming Laboratory for Medical Informatics I	Fall 2013

READER

BME 223A - Programming Laboratory for Medical Informatics I	Fall 2013