Michael L. Rivera

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EDUCATION

Carnegie Mellon University, *School of Computer Science*   Sep 2015 - Present
Second year Ph.D. in Human-Computer Interaction
Advisors: Scott E. Hudson and Jennifer Mankoff

University of Pennsylvania, *School of Engineering & Applied Science*   May 2014
M.S.E. in Computer Graphics and Game Technology*, GPA: 3.94 / 4.00*
Thesis: From Image to Device – A Case Study on 3D Printing for Patient-Specific Care
B.S.E. in Digital Media Design, *GPA: 3.54 / 4.00, cum laude*
Advisor: Norman Badler

AWARDS AND HONORS

Adobe Research Fellowship, *Honorable Mention*   2017
Xerox Technical Minority Scholarship, *Recipient*   2017
Carnegie Mellon University Presidential Fellowship, *Recipient*   2017
DreamIt Health Open Canvas Accelerator, *Finalist*   2014
Society for Technology in Anesthesia 2014 Engineering Challenge, *1st Place*   2014
Penn Interdisciplinary Talks, *Finalist*   2014
PennHacks Hardware Hackathon, *3rd Place (of 40 teams)*   2013
LinkedIn Company Hackday, *1st Place*   2012
University College London, *Affiliate Computer Science Student*   2012
PennApps Hackathon 2012, *Best Use of the Tumblr API sponsored by Tumblr*   2012

PEER-REVIEWED PUBLICATIONS

[2]   **Rivera, M.L.**, Moukperian, M., Ashbrook, D., Mankoff, J., Hudson, S.E. 2017. Stretching the Bounds of 3D Printing with Embedded Textiles. To appear in to the annual ACM conference on Human Factors in Computing Systems. CHI '17.

[1]   Galvez, J.A., Simpao, A.F., Dori, Y., Gralewski, K., McGill, N.H., **Rivera M.L.**, Delsco, N., Khan, H., Rehman, M.A., Fiadjoe, J.E. 2016. Not Just a Pretty Face: Three-Dimensional Printed Custom Airway Management Devices. *3D Printing and Additive Manufacturing*. September 2016, 3(3): 160-165. doi:10.1089/3dp.2016.0025.

POSTERS AND DEMONSTRATIONS

[2]   **Rivera, M.L.**, Moukperian, M., Ashbrook, D., Mankoff, J., Hudson, S.E. 2017. Stretching the Bounds of 3D Printing with Embedded Textiles. Carnegie Mellon University's 3D Printing Summit. Pittsburgh, PA.

[1]   **Rivera, M.L.**, Moukperian, M., Ashbrook, D., Mankoff, J., Hudson, S.E. 2016. Stretching the Bounds of 3D Printing with Embedded Textiles. Carnegie Mellon University's DIY Assistive Technology Summit. Pittsburgh, PA.

INVITED TALKS

University of Pennsylvania, Penn-Interdisciplinary Talks, Philadelphia, PA   Apr 2014
Tracheal Aire – a step towards patient-specific medical instruments

Society for Technology in Anesthesia, Engineering Challenge 2014, Orlando, FL   Jan 2014
Tracheal Aire: Patient-specific 3D Printable Williams Airway Intubators

University of Maryland, Baltimore County, McNair Scholars Conference, Baltimore, MD   Sept 2013
Project PAALM: Phalangeal Angle Approximation through the Leap Motion Controller

University of Pennsylvania, Big Think Innovation Conference, Philadelphia, PA   Mar 2013
Hacking New Frontiers: 3D Gesture Recognition

PROFESSIONAL EXPERIENCE

Facebook, Software Engineer, New York, NY   Jul 2014 - Aug 2015
iOS and Android Product Engineer on the Places Team. Implemented modular result cards for Nearby Places on Facebook for iOS. Single handedly built the redesigned Nearby Places for Facebook for Android. Developed an edit flow for Places Home Creation on Facebook for iOS.

Facebook, Software Engineer Intern, Menlo Park, CA   May 2013 - Aug 2013
Android Engineer on the Facebook Home Team. Built a scalable viewpager with spring animations for the application launcher of Facebook Home for Android.

LinkedIn, Software Engineer Intern, Mountain View, CA   May 2012 - Aug 2012
iOS and Mobile Web Engineer for the Mobile Team. Developed event bubble display items and a internal settings module for an iOS calendar widget library. Implemented the 'Send Congrats' feature for the LinkedIn mobile web application.

TEACHING EXPERIENCE

Teaching Assistant, Carnegie Mellon University, Pittsburgh, PA
Software Systems for User Interfaces (05-631)   Fall 2016

Teaching Assistant, University of Pennsylvania, Philadelphia, PA
Digital Media Design Capstone Project Course (CIS-497)   Fall 2013, Spring 2014
Introduction to Java Programming (CIS-110)   Fall 2013
Software Design and Engineering (CIS-350)   Spring 2013

SERVICE

Department Ombudsman, HCII, Carnegie Mellon University   Fall 2016 - Fall 2017
Student Volunteer, ACM Human Factors in Computing Systems (CHI)   May 2017
Student Volunteer, 3D Printing Summit, Carnegie Mellon University   Jan 2017
Student Volunteer, DIY Assistive Tech. Summit, Carnegie Mellon University   April 2016

SELECTED PROJECTS

Tracheal Aire, 3D Printable Patient-specific Williams Airway Intubators   Jan 2014
Allows physicians to use measurements taken from a CAT scan to generate a customized airway intubator for a particular patient. *Society for Technology in Anesthesia 2014 Engineering Challenge*, *1st Place.*

Project PAALM, Leap Motion Controller and Autodesk Maya Plugin   May 2013
Supports real-time animation in Maya by quickly approximating the phalangeal joint angles of a user's hand gestures.

Phase Change, Collaborative Sound Creation & Visualization   Apr 2013
Allows users to create, layer, and shape 30-second sound recordings in an online branch-based versioning system.

Brobots, Collaborative Gesture-Controlled Robot   Feb 2013
Permits remote users to control different aspects of the robot's functionality using gestures detected through the Leap Motion Controller.

Social Sign, Multi-user American Sign Language Translator   Jan 2013
Detects gestures using the Leap Motion Controller and communicates them as text and images in an online chat room.

PRESS COVERAGE

MedCity News, "Pediatric hospital physicians form 3D printing 'think tank'"   Feb 2014
MAKE Magazine, "Hacking on the Frontier of Gestural Input"   Feb 2012

TECHNICAL SKILLS

Programming Languages Java, Javascript, Python, Objective-C, C++, C
Software Development iOS, Android, Arduino, Node.js, Flask, Backbone, Django, JQuery, OpenGL
Hardware Development PCB Design, Hardware I/O
Fabrication 3D Modeling, 3D Printing (FDM), Laser Cutting

REFERENCES

Scott E. Hudson, Professor, Human-Computer Interaction Institute, Carnegie Mellon University
Jennifer Mankoff, Professor, Human-Computer Interaction Institute, Carnegie Mellon University
Norman I. Badler, Professor, Computer Science and Information Science, University of Pennsylvania
Justin Moore, Engineering Manager, Facebook