Elena Kodama

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linkedin: elenakodama | github: helenchg | YouTube tutorials: tinkerall

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY | MASTER OF SCIENCE IN MEDIA ARTS AND SCIENCES
MIT Media Lab | Responsive Environments Group | Adviser: Prof. Joseph Paradiso
Expected Jun 2020 | Cambridge, MA

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
Robotics and Mathematics Minors
May 2016 | Terre Haute, IN

RESEARCH

MIT MEDIA LAB | GRADUATE RESEARCH ASSISTANT
Responsive Environments Group | Adviser: Prof. Joe Paradiso
Sep 2018 – Present | Cambridge, MA
My current research aims to provide insights into what makes a memorable AR tour guiding experience. I am working closely with four interns to build a gallery-like tour experience. We will run a between-subjects experiment design to study the effects on memory retention by having participants interact with a non-humanoid embodied conversational agent and disembodied conversational agent as a tour guide. Additional projects are described below:

- Supervising undergraduate researcher
- Working on non-humanoid AR agent visualization.
- Analyzed survey and biosignal data using Panda, Numpy, and scikit-learn in Jupyter notebook/anaconda environment.
- Collaborated in the design and fabrication of paper-based origami robot.
- Conducted a user-study to evaluate the perception of a mediated environment workstation prototype.
- Prototyped a personalized, context-aware, lighting system that can follows multiple users in an office environment.
- Designed and built an android app for assessing individual selective attention and stress level in different physical environments.
- Contributed to the organization of the Reality Hack event.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | UNDERGRADUATE RESEARCH ASSISTANT
Biology and Biomedical Engineering Department | Adviser: Prof. Alan Chiu
2015 | Terre Haute, IN
Performed user-studies for Steady State Visually Evoked Potential (SSVEP) research, and used electroencephalography (EEG) to identify signals for brain-machine interface.

MAX PLANCK INSTITUTE FOR INFORMATICS | RESEARCH INTERN
Human-Computer Interaction Group | Adviser: Prof. Jurgen Steimle | Mentor: Daniel Groeger
Jun - Nov 2015 | Saarbrucken, Germany

- Presented a new technique for customizing 3D printed objects using embedded heating strip.
- Prototyped several post-customizable 3D printed objects using Arduino, Processing, 3D Printing, and printed electronics.
- Helped with the design of 3D models using Rhino with Grasshopper.
- Co-authored paper accepted to ACM CHI 2016. [HONORABLE MENTION, TOP 4%]

WYSS INSTITUTE - HARVARD UNIVERSITY | RESEARCH INTERN
Lewis Research Group - Voxel8 | Adviser: Prof. Jennifer Lewis | Mentor: Michael Bell and Travis Busbee
Jun - Aug 2014 | Cambridge, MA

- Designed, fabricated, and tested embedded 3D printed electronic devices with vertical conductive traces to prove the technology behind Voxel8.
- Coded extensively in GCode and modeled in Fusion360 to generate 3D prints.
- 2014 REU Funding: Wyss Institute for Biologically Inspired Engineering.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | Undergraduate Research Assistant

Physics and Optical Engineering Department | Adviser: Prof. Scott Kirkpatrick
Jun - Aug 2013 | Terre Haute, IN

- Investigated the process of growing carbon nanotubes on silicon wafers.
- Performed standard microelectronics cleanroom procedures, such as photolithography, developing, and etching.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | Undergraduate Research Assistant

Physics and Optical Engineering Department | Adviser: Prof. Richard Ditteon
Sep - Nov 2012 | Terre Haute, IN

- Performed Asteroid Photometry and gathered data on the results.
- Co-authored a report on the results of the Asteroid Photometry data published in the Minor Planet Bulletin.

EXPERIENCE

TINKERALL | Founder and CEO

Sep 2016 – Present | Panama, Panama

- Teaching video tutorials through Tinkerall youtube channel on Digital Fabrication, Electronics, and Programming for the hispanic community.
- Developed and taught several workshops on using new technological tools for education to educators in high school and university level.
- Developed and taught Digital Fabrication, Basic Arduino and Electronics courses and workshop to high school and university level students and professionals.
- Co-organized the first Panama Maker Day event with an attendance of over 200+ people. Day event, and creating workshops on digital fabrication, electronics, programming, and robotics

INFOPLAZAS AIP | Program Manager

Jun 2017 - Feb 2018 | Panama, Panama

- Led the National Program of Digital Fabrication and Maker Culture with a budget of $525,000 from the National Secretariat of Science, Technology and Innovation.
- Developed a long term plan for the establishment of fabrication labs and Maker education programs across the country.
- Introduced the Maker education programs to over 230+ InfoPlazas employees.

ELECTRONINKS INC. | Engineering Intern

Mentor: Michael Bell, Jack Minardi, and Analisa Russo
Jun 2014 | Shenzhen, China
Sourced and inspected electronic components for the company's first batch of conductive-ink pens and auxiliary circuits.

SKILLS

CAD, DESIGN, DEVELOPMENT, ENVIRONMENT

Microsoft Cognitive Services • Fusion360 • Rhinoceros 3D with Grasshopper • Adobe Creative Suite • Unity • Android Studio • Eagle • Arduino IDE • Anaconda • Visual Studio • Cadence

FABRICATION

3D Printing • Large scale CNC • Lasercutting • Milling • Photolithography • Printed Electronics • Flexible Electronics • Soldering • Casting and Molding

PROGRAMMING & MARKUP LANGUAGES

Used extensively for more than one semester
Python • C++ • C# • JavaScript • Matlab • Java • HTML5/CSS • LaTeX

SPOKEN & WRITTEN

Native Fluency: English, Spanish
Conversational: Cantonese
Basic Fluency: Mandarin

FINANCE

Swing Trading • Day Trading ETF • Option Trading • Long-Term Investment • Management • Leadership • Start-Up •Real-Estate Investment

PUBLICATIONS

[3]   Irmandy Wicaksono, Elena Kodama, Arterm Dementyev, and Joe Paradiso. SensorNets: Towards Reconfigurable Multifunctional Fine-grained Soft and Stretchable Electronic Skins. In proceedings of the 2020 CHI Conference on Human Factors in Computing System (CHI Late-Breaking 2020). ACM, Honolulu, Hawaii, USA.

[2]   Daniel Groeger, Elena Chong Loo , and Jürgen Steimle. 2016. HotFlex: Post-print Customization of 3D Prints Using Embedded State Change. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16). ACM, New York, NY, USA, 420-432. DOI: https://doi.org/10.1145/2858036.2858191

[1]   Gary Simpson, Elena Chong, Michael Gerhardt, Sean Gorsky, Matthew Klaasse, Brian Kodalen, Faye Li, Luke Mader, Robert Moore, Rachel Vinson, Richard Ditteon. Minor Planet Bulletin, Vol 40, Number 3, A.D. 2013 July-September

POSTERS AND PRESENTATIONS

[3]   "An Augmented Reality Guiding Embodied Agent for Indoor Spaces". MIT Quest for Intelligence, Embodied Intelligence Research Mixer. October 24, 2019.

[2]   "Evaluation of SSVEP Stimulation Pattern using Canonical Coherence Analysis". Xioyin Ling, Elena Chong, Alan Chiu. Department of Biomedical Engineering, Rose-Hulman Institute of Technology. Poster presented at: End-of-Quarter Symposium, May 22, 2015.

[1]   "3D Printing Electronics: Testing of conductive ink in vertical printing and embedded devices and hardware development of 3D printing electronics". End-of-Program REU Seminar Presenstation, Harvard University, Cambridge, Massachusetts, August 2014.

AWARDS AND HONORS

2019	Best in Productivity Cash Prize	MIT Reality Virtually Hackathon
2016	Honorable Mention Award	ACM CHI
2015	Honor Key Award Recipient	Rose-Hulman Student Government Association
2015	Trunk Club's Most Innovative Way to Connect to Someone Award	HackIllinois
2014	Best News or Feature Series Award	Indiana Collegiate Press Association
2014	REU Funding	Wyss Institute - Harvard SEAS
2012	Panamanian Undergraduate Scholarship of Excellence	SENACYT-IFARHU

INVITED TALKS AND DEMOS

[7]	May 2017	Centro Cultural Chino Panameño, Panama, Panama.	Invited by Prof. Jonathan Kernahan
[6]	Apr 2017	IEEE-WIE, Universidad Tecnológica de Panamá, Panama, Panama.	Invited by IEEE-WIE, UTP
[5]	Mar 2017	Universidad Católica Santa María La Antigua, Panama, Panama.	Invited by Prof. Carlos Betancourt
[4]	Sep 2016	Colegio Hector Gallego, Veraguas, Panama.	Invited by Prof. Florentina Gutiérrez
[3]	Sep 2016	Panama Christian Academy, Panama, Panama.	Invited by Prof. Eduardo Chung
[2]	Aug 2016	Radio Mía, Panama, Panama.	Invited by Prof. Víctor López
[1]	Aug 2016	Instituto Panamericano, Panama, Panama.	Invited by Prof. Norberto Rosales

WORKSHOPS AND TEACHING

[9]	Oct 2017	Workshop	Intro to 3D modeling and 3D Printing.	Encuentro Regional Panamá
[8]	Sep 2017	Workshop	Robotics using Arduino Platform.	Universidad Tecnológica de Panamá
[7]	Sep 2017	Workshop	Introduction to Arduino Platform.	Universidad Católica Santa María La Antigua
[6]	Sep 2017	Workshop	Intro to 3D modeling and 3D Printing.	Encuentro Regional Chitré, InfoPlazas AIP
[5]	Sep 2017	Workshop	Intro to 3D modeling and 3D Printing.	Encuentro Regional Chiriquí, InfoPlazas AIP
[4]	Mar 2017	Workshop	Teaching and Using Arduino in school.	Centro Cultural Chino Panameño
[3]	Feb - Sep 2017	Class	Basic Arduino 1 and 2	Tinkerall
[2]	Dec 2015	Workshop	Introduction to Soldering.	The MakerLab, Rose-Hulman Insitute of Technology.
[1]	2015	Workshop	Maker Day.	the Embodied Interaction Group, Max Planck Institute for Informatics, Germany

PATENTS

[3] Jaime QIU, Manuel TONG, Lucía CHEUNG, Elena CHONG, Rotating display with a dual heating system in stackable units, WIPO (PCT), WO2018167742, 2018. (Pending)

[2] Lucía CHEUNG, Jaime QIU, Manuel TONG, Elena CHONG, Modular vending machine in stackable units, WIPO (PCT), WO2018163142, 2018. (Pending)

[1] Elena CHONG LOO, Manuel Alejandro TONG ZHANG, Lucía CHEUNG YAU, Jaime Eric QIU LIU, WIPO (PCT), WO2018131016A2, 2018. (Pending)

PRESS

2016	6 emprendedores que buscan transformar a Centroamérica.	Forbes Centro-America and Mexico

MEMBERSHIPS AND SOCIETIES

Alpha Lambda Delta Honor Society • Eta Kappa Nu (IEEE-HKN) Honor Society• Pi Mu Epsilon Honor Society• Blue Key National Honor Fraternity• Institute of Electrical and Electronics Engineers (IEEE)• Association for Computing Machinery (ACM)• Order of the Engineer