Elena C. Kodama

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY | Master of Science in Media Arts and Sciences   **CAMBRIDGE, MA**
Master's Thesis: "R.E.I.N.A. : Towards Pervasive Interface Agents that Transcend the Physical-Digital Worlds"   Sep 2020

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | Bachelor of Science in Electrical Engineering   **TERRE HAUTE, IN**
Robotics: Programming Track and Mathematics Minors   May 2016

EXPERIENCE

BOWERE | Co-Founder & COO   **BOSTON, MA**
Destination and Platform for 3D Shopping Experience   Sep 2020 - Jan 2021

- Drove product strategy and built multiple digital showrooms (MVP) for consumers and business.
- Integrated customer feedback from 50+ interviews into product requirements, reached out to 100+ retailers, and signed up 6 paying customers to our Early Adopter Program within a week.
- Spearheaded development with product roadmap, GTM plan, and business model analysis to drive customer acquisition.
- Growth hacked customers leveraging community forums, cold outreach, and personal introductions with a 10% conversion rate within two weeks.

MIT MEDIA LAB | Graduate Research Assistant   **CAMBRIDGE, MA**
Responsive Environments Group | Advisor: Joseph A. Paradiso   Sep 2018 - Sep 2020

- Led a cross-functional team of engineers and designers to develop a ground-breaking Augmented Reality (AR) avatar that can understand voice command and navigate in the physical environment with AI/ML technology.
- Collaborated effectively with 2 designers to develop a new design pattern and fabrication method for a paper-based origami robot (pending publication).
- Conducted and collected over 150+ user interviews, biosignals, and survey data, and performed statistical analysis using Python, pandas, Numpy, matplotlib and scikit-learn in Jupyter notebook/anaconda environment.
- Coordinated and co-led largest AR/VR/XR event at MIT with over 400+ enthusiasts, sponsors and mentors driving community engagement for spatial computing.
- Co-authored 2 works published in ACM CHI and Future Technologies Conference with 3 papers pending for publication.
- Received the MIT Media Lab Elements Fellowship and the 2020 Google Women Techmakers Scholarship for Gaming.

TINKERALL | Founder & CEO   **PANAMA CITY, PANAMA**
Ed-startup that provides educational resources to promote a culture of creation within the Hispanic community.   Sep 2016 - Aug 2018

- Directed a cross-functional team of 5 (sales, design and engineering, legal, and marketing) to oversee the operation of the startup, which offered curriculum, tools and educational resources in Spanish to learn embedded programming.
- Led a cross-functional team of 4 to develop 5 international patent applications with 3 publications in WIPO (PCT).
- Produced video tutorials presenting complex topics on digital fabrication, electronics, and programming for the Hispanic community, resulting in 7,000+ YouTube subscribers and 400,000+ views as of Feb 2021.
- Participated in 15+ speaking and teaching engagements reaching over 300+ students and professionals.
- Spearheaded the first Panama Maker Day event with an attendance of over 200+ people.
- Featured in Forbes Central America Magazine as one of six entrepreneurs who wants to transform the education system.

INFOPLAZAS AIP | National Fablab Program Manager   **PANAMA CITY, PANAMA**
Nationwide community centers for Internet access where citizens find various cutting-edge technologies.   Jun 2017- Feb 2018

- Led the National Program of Digital Fabrication and Maker Culture with a budget of $525,000, which resulted in a long-term plan to establish four fabrication labs and Maker education programs across the country.
- Engaged key stakeholders such as the Director of the National Secretariat of Science, Technology and Innovation and the Director of the InfoPlazas AIP to invest resources and increase international presence in the Fablab community.
- Presented the Maker program to over 230+ employees to foster a culture of entrepreneurship and independent learning.

MAX PLANCK INSTITUTE FOR INFORMATICS | Research Intern   **SAARBRUCKEN, GERMANY**
Human-Computer Interaction Group | Adviser: Prof. Jurgen Steimle   Jun - Nov 2015

- Co-authored paper accepted to ACM CHI 2016, winning an Honorable Mention Award (Top 4%).
- Prototyped several post-customizable 3D printed objects using Rhino with Grasshopper, Arduino, Processing, 3D Printing, and paper-based printed electronics.

WYSS INSTITUTE - HARVARD UNIVERSITY | Engineering Intern   **CAMBRIDGE, MA AND SHENZHEN, CHINA**
Lewis Research Group, Voxel8, and Electroninks Inc. | Adviser: Prof. Jennifer Lewis   Jun - Aug 2014

- Developed successfully one of the first functional 3D printed electronic devices with vertical conducting traces.

- Traveled to Shenzhen, China to help source and inspect electronic components for Electroninks's first batch of conductive-ink pens and auxiliary circuits.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY | Undergraduate Research Assistant
TERRE HAUTE, IN
Multiple Research Experience
2012-2015

Biology and Biomedical Engineering Department | Advisor: Prof. Alan Chiu
2015
- Conducted a user-study on Steady State Visually Evoked Potential (SSVEP) research, and used electroencephalography (EEG) to identify signals for a brain-machine interface.

Physics and Optical Engineering Department | Advisor: Prof. Scott Kirkpatrick
Jun - Aug 2013
- Investigated the process of growing carbon nanotubes on silicon wafers.
- Performed standard microelectronics cleanroom procedures, such as photolithography, developing, and etching.

Physics and Optical Engineering Department | Advisor: Prof. Richard Ditteon
Sep - Nov 2012
- Co-authored a report on the results of the Asteroid Photometry data published in the Minor Planet Bulletin.
- Performed Asteroid Photometry and gathered data on the results.

SKILLS

TECHNICAL
Microsoft Cognitive Services • Fusion360 • Rhinoceros 3D with Grasshopper • Adobe Creative Suite • Unity3D • Android Studio • Eagle • Arduino IDE • Anaconda • Visual Studio • Firebase • PostgreSQL • Cadence • Vuforia Engine • Blender

FABRICATION
3D Printing • Large scale CNC • Laser-cutting • Milling • Photolithography • Printed Electronics • Flexible Electronics • Soldering • Casting and Molding

PROGRAMMING & MARKUP
Python • C# • JavaScript • Matlab • Java • HTML5/CSS • SQL • LaTeX

SPOKEN & WRITTEN
Native Fluency: English, Spanish; Conversational: Cantonese; Basic Fluency: Mandarin

FINANCE
Experience with: Swing Trading • Day Trading ETF • Option Trading • Long-Term Investment • Management • Real-Estate Investment • Crypto-mining

PUBLICATIONS

[4] Elena C. Kodama, Nan Zhao, Joseph A. Paradiso (2021) LightCloud: Future of Dynamic Lighting in the Shared Space. In: Arai K., Bhatia R., Kapoor S. (eds) Proceedings of the Future Technologies Conference (FTC) 2020. Advances in Intelligent Systems and Computing. Springer, Cham.

[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

PRESENTATIONS

[4] Jiani Zheng, Elena Kodama, Lizbeth B. De La Torre, Danielle Woods, and Joe Paradiso. Mollusca: Design and Fabrication of a Crawling Origami Robot. The 17th International Conference on Ubiquitous Computing, Work-in-Progress paper presentation. June 22-26, 2020, Kyoto, Japan.

[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

2020	Women Techmakers Scholars Program for Gaming	Google Scholarship
2019	Best in Productivity Cash Prize	MIT Reality Virtually Hackathon
2018	Elements Fellowship	MIT Media Lab
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.	MakerLab, Rose-Hulman Insitute of Technology
[1]	2015	Workshop	Maker Day	HCI 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)

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