

# Vikram Kamath Cannanure

HCI AND ICTD RESEARCHER · PROGRAMMER

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## Education

### Carnegie Mellon University

PhD, HUMAN COMPUTER INTERACTION

Pittsburgh, USA

2017–2023 (expected)

- Advisors: Prof. Tim Brown and Prof. Amy Ogan
- Committee: Prof. Chinmay Kulkarni, Prof. Mayank Goel and Prof. Kentaro Toyama (University of Michigan)
- Thesis: DIA: Supporting Teacher Professional Development in Low Infrastructure Settings

### Carnegie Mellon University

MASTERS, HUMAN COMPUTER INTERACTION

Pittsburgh, USA

2017–2021

### Carnegie Mellon University

MASTERS, EDUCATIONAL TECHNOLOGY AND APPLIED LEARNING SCIENCE

Pittsburgh, USA

2014–2015

### National Institute of Technology Karnataka

BACHELOR OF TECHNOLOGY, MECHANICAL ENGINEERING

Karnataka, India

2007–2011

## Awards

- |      |  |               |
|------|--|---------------|
| 2019 | <b>PhD Fellowship</b> , Center for Machine Learning and Health | Pittsburgh PA |
| 2019 | <b>Best Paper Award</b> , ACM COMPASS Paper                    | Accra, Ghana  |
| 2019 | <b>Poster Spotlight</b> , ACM COMPASS Poster                   | Accra, Ghana  |

## Selected Publications

For full list see <https://scholar.google.com/citations?user=HVuuUzwAAAAJ>

- [9] **Cannanure V.K.**, Ávila E., Ngoon T., Adji Y., Wolf S., Jasinska K., Brown T., Ogan A. *"We dream of climbing the ladder, for getting there, we have to do our job better": Designing for Teacher Aspirations in rural Côte d'Ivoire*. ACM COMPASS 2022, Seattle, USA.
- [8] **Cannanure V.K.**, Brown T., Ogan A. *DIA: A Human AI Hybrid Chatbot for Low Resource Contexts*. ICTD 2020, Guayaquil, Ecuador
- [7] **Cannanure V.K.**, Souvenir J., Adji Y., Apke H., Jasinska K., Brown T., Ogan A. *"I'm fine where I am, but I want to do more": Exploring Teacher Aspirations in Rural Cote D'Ivoire*. ACM COMPASS 2020, Guayaquil, Ecuador
- [6] Madaio, M., Yarzebinski, E., **Cannanure V.K.**, Zinszer B., Seri, A., Tanoh, F., Hannon-Cropp, J., Cassell, J., Jasinska, K., Ogan, A. *Collective Support and Independent Learning with a Voice-Based Literacy Technology in Rural Communities*. . CHI '20, Apr 2020, Hawaii, USA
- [5] Madaio, M., **Cannanure V.K.**, Yarzebinski, E., Zsacky, S., Tanoh, F., Hannon-Cropp, J., Cassell, J., Jasinska, K., Ogan, A. *"You Give a Little of Yourself": Family Support for Children's Use of an IVR Literacy System*. . COMPASS '19, Jun 2019, Accra, Ghana
- [4] **Cannanure V.K.**, Brown T, *RASP-IVR: A Low Cost Interactive Voice Response System*. AfriCHI '18, December 2018, Windhoek, Namibia.
- [3] Onafuwa, D., Early, K., Vyas N, **Cannanure V.K.**, Mankoff J. *Understanding the Information Needs of Prospective Tenants*. ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS 2018), June 2018, San Francisco, USA.
- [2] Bhat, K\*, Thinayane M\*, Goldkind L., **Cannanure V.K.** *Critical Participatory Design: Reflections on engagement and empowerment in a case of a Community Based Organization*. Participatory Design Confer-

ence (PDC 2018), August 2018, Hasselt and Genk, Belgium.

- [1] **Cannanure V.K.**, Chen, X., Mankoff J., *Twist and Knock A One-Handed Gesture for Smart Watches*. Proceedings of the 42nd Graphics Interface Conference (GI 2016)

## Lightly Reviewed Work

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- [11] **Cannanure V.K.**, Varghese D., Rivera-Loaiza C., Noor F., Das D., Jain P., Chang-Rizzo M., Wong-Villacres M., Karusala N., Ahmed N., Till S., Akhigbe B., Dray S., Densmore M, Sturm C., Kumar N. (2022). *HCI Across Borders: Towards Global Solidarity*. CHI '23, Apr 2022, Hamburg, Germany.
- [10] **Cannanure V.K.**, Karusala N., Rivera-Loaiza C., Prabhakar A. S., Varanasi R. A., Tuli A., Gamage D., Noor F., Nemer, D., Das D., Dray S., Sturm C., Kumar, N. (2022). *HCI Across Borders: Navigating Shifting Borders at CHI*. CHI '22, Apr 2022, New Orleans, USA.
- [9] **Cannanure V.K.**, Gamage D., Sturm C., Winschiers-Theophilus H., Maestre, J. F., Karusala N., Reynolds-Cuellar P., Kumar, N., *Workshop: Decolonizing HCI Across Borders*. CHI '20, Apr 2021, Yokohama, Japan.
- [8] Kumar, N, **Cannanure V.K.**, Gamage D. , Prabhakar A., Sturm C. *Workshop: HCI Across Borders and Sustainable Development Goals*. CHI '20, Apr 2020, Hawaii, USA
- [7] **Cannanure V.K.**, Bigwi. J, Umutesi. G, Mukamisha J.,Souvenir J., Ogan A, Brown T. *Designing a simple health information system for Women in Rwanda*. From Needs to Strengths: Operationalizing an Assets-Based Design of Technology: CSCW Workshop 2020,
- [6] Ávila E., Greenholt M. , Adji Y., **Cannanure V.K.**, Brown T., Ogan A. *Designing a Human Centred Chatbot to Mentor Teachers in Developing Contexts*. AI and Social Good Symposium CMU, Pittsburgh, USA
- [5] **Cannanure V.K.**, Madaio, M., Yarzebinski, E., Ogan, A, Brown T. *Using Graphical Models to Understand Usage of an Educational Interactive Voice Response System*. COMPASS '19, Jun 2019, Accra, Ghana [Poster]
- [4] **Cannanure V.K.**, Nagashima T., Gordon G., Brown T. *QnA: a low-cost system for developing interactive OER in computer science* OpenEd 18, Niagra falls, USA [Demo]
- [3] **Cannanure V.K.** *Phone Based Systems to Support Maternal Mental Health in Rwanda*. ICTDX '19 Doctoral consortium, January 2019, Ahmedabad, India.
- [2] **Cannanure V.K.**, Brown T, *Voice Based Social Network for Maternal Mental Health Awareness in Rwanda*. HCI Across Borders Workshop (CHI 2018), Montreal, Canada.
- [1] **Cannanure V.K.**, Gordon G. *TelKart and QnA: An Open Teaching System for Computer Science Courses*. Open Education Global Conference 2017, (OEC 2017), Cape Town South Africa [Poster]

## Research Experience

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### United Nations University Computing and Society

Macau, SAR, China

#### RESEARCH INTERN

July 2017 – Sept 2017

- Advisor: Dr. Mamello Thinayne
- Interned at the Small data lab to learn about ICTD
- Conducted participatory design with a local NGO (Caritas Macau)
- Built a mobile app to report and monitor homelessness in Macau

### Carnegie Mellon University

Pittsburgh, USA

#### SENIOR WEB DEVELOPER

July 2015 – June 2017

- Advisor: Prof. Geoff Gordon
- Building and maintaining Educational Technology to improve online learning
- Prototyping low cost video recording system for teaching courses

- Advisor: Prof. Jen Mankoff
- Longitudinal Eating Detection: Deployed and evaluated the system to 12 users in the field. CoAdvisor: Prof. Edison Thomaz
- Twist n Knock: A One-Handed Gesture for smart watches: publication at GI 2016
- EDigs: Built and maintained the APIs for apartment hunting website in Pittsburgh.

## Professional Experience

### TeliportMe Inc: Indian startup

Karnataka, IN

WEB ARCHITECT

Jul 2011- Aug. 2014

- Engineered APIs for Android, iOS, Web and Google Glass
- Scaled back-end to handle 4 million users and manage 100K locations
- Designed 3D viewer on par with Google street view
- Managed 10 Ubuntu machines with MySQL and Redis replication

## Teaching Experience

### Programming Usable Interfaces (05-430/05630)

TEACHING ASSISTANT. INSTRUCTOR: SCOTT HUDSON

Spring 2022

Carnegie Mellon University

### User-Centered Research & Evaluation (05-410/05-610)

TEACHING ASSISTANT. INSTRUCTOR: RAELEN MUSURACA

Spring 2021

Carnegie Mellon University

## Professional Service

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|-------|---|------------------|
| 2023  | <b>Lead Organizer</b> , HCI Across Borders (HCIXB) workshop at CHI  | Hamburg, Germany |
| 2022  | <b>Lead Organizer</b> , HCI Across Borders (HCIXB) workshop at CHI  | New Orleans, USA |
| 2021  | <b>Lead Organizer</b> , HCI Across Borders (HCIXB) workshop at CHI  | Yokohama, Japan  |
| 2020- | <b>SIGCHI Development Fund</b> , Executive Committee  |                  |
| 2020- | <b>AC</b> , CHI 22 (extended abstract), CHI 21 (extended abstract), CHI 20 (extended abstract)  |                  |
| 2020  | <b>Organizer</b> , HCI Across Borders (HCIXB) symposium at CHI  | Hawaii, USA      |
| 2019  | <b>Organizer</b> , HCI Across Borders (HCIXB) symposium at CHI  | Glasgow, UK      |
| 2019  | <b>Organizer</b> , Young Researchers reception ICTDx  | Ahmedabad        |
| 2018- | <b>Reviewer</b> , ACM COMPASS 2021, CSCW 2021, CHI 2021, CHI 21 (case studies), CSCW 20, CHI 20 (case studies), CHI 19, HCIXB 2019, DIS 18 (WiP), PDC 18(Notes) |                  |

## Mentoring

Masters

- Prithika Acharya**: CMU Pittsburgh, METALS 2022: *Teacher Training Project in Ivory Coast*
- Aastha Patel**: CMU Pittsburgh, METALS 2022: *Teacher Training Project in Ivory Coast*
- Egide Kamuzinzi**: CMU Rwanda, MSIT 2021: *Teacher Training Project in Ivory Coast*
- Baptiste Moreau-Pernet**: CMU Pittsburgh, METALS 2021: *Teacher Training Project in Ivory Coast*
- Saumya Sharma**: CMU Pittsburgh, MSIPM 2020: *Simple Health Information System*
- Lucie Uwimpaye**: CMU Africa, MSIT 2021: *Simple Health Information System*
- Eloísa Ávila**: CMU Pittsburgh, MSPPM 2021: *Teacher Training Project in Ivory Coast*
- Sheila Mbadu**: CMU Africa, MSIT 2021: *Simple Health Information System*
- Patrick Manirakiza**: CMU Africa, MSECE 2019: *MnE system for Rwanda Women's Network*
- Solange Iyubu**: CMU Africa, MSECE 2019: *MnE system for Rwanda Women's Network*
- Sabin Sheja**: CMU Africa, MSECE 2019: *MnE system for Rwanda Women's Network*
- Justin Bigwi**: CMU Africa, MSECE 2019: *Design of a Phone Call-Based Health Information System*
- Gloria Umutesi**: CMU Africa, MSECE 2020: *Design of a Phone Call-Based Health Information System*
- Jocelyne Mukamisha**: CMU Africa, MSIT 2020: *Design of a Phone Call-Based Health Information System*
- Justin Souvenir Niweteto**: CMU Africa, MSIT 2020: *Design of a Phone Call-Based Health Information System*

**Fraterne Kagame** CMU Africa, MSIT 2020: *Design of a Phone Call-Based Health Information System*  
**Huguette Ingenere**: CMU Africa, MSIT 2020: *French Interview Transcription for teachers in Cote d'Ivoire*  
**Marie Claudine Ingenere**: CMU Africa, MSIT 2020: *French Interview Transcription for teachers in Cote d'Ivoire*  
**Nebiyu Yismaw**: CMU Africa, MSECE 2018: *Digital and Voice based Systems to support GBV*  
**Fabiola Uwashema**: CMU Africa, MSIT 2018: *Digital and Voice based Systems to support GBV*

## Undergraduate

**Lena Armstrong**: University of Pennsylvania, Summer REU: *Teacher Training Project in Ivory Coast*  
**Maya Greenholt**: CMU Pittsburgh, Cognitive Science: *Teacher Training Project in Ivory Coast*

## Skills

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**Programming** Python, PHP, HTML/CSS, JavaScript, Android, Arduino, iOS  
**Technologies** Scipy, Scikit, Weka, Numpy, AngularJS, Three.js, Bootstrap, MySQL, MongoDB, Redis, WebSockets  
**Coursework** Applied Fabrication, Applied Machine Learning, Data Pipeline, Gadgets Activity and Recognition in HCI, Education Goals, E-Learning Design Principles, Game Design Studio, Design of Educational Games

## Selected Press

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**The Next Web** *TeliportMe introduces 3D effects to its 360-degree panoramic app for Android*  
**Techcrunch** *Test Flighting: Applover Launches Free, Crowdsourced Testing Platform for Android Apps*  
**Robert Scoble** *Developers: crowd-source your testing of Android phones*  
**CMU** *A new online resource from Carnegie Mellon University seeks to help people find the perfect rental*  
**HCI** *EDigs Helps Apartment Hunters Find the Perfect Rental*  
**TheBetterIndia** *How a National Level Cyclist Is Fighting Both Spinal Injury & Poverty with Inspiring Confidence*  
**Milaap Blog** *Getting Back to Cycling: A National Medalist's Dream*

## Other

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- **Philanthropy** I have raised over \$20,000 for charity for various causes in India
- **Android** I have deployed 3 apps to the app store and have around 10,000 active users
- **Web** I have deployed over 20 websites to production. My best project has reached over 4 million users.
- **Teaching** I teach children a second language(Kannada) at the S.V. Temple in Pittsburgh
- **Swimming** I swam 10 miles from Elephanta Caves to Gateway of India to raise money for acid attack victims