

Vikram Kamath Cannanure

POSTDOCTORAL FELLOW - SAARLAND UNIVERSITY · HCI, ICTD, AI, EDUCATION

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I am a postdoctoral fellow at Saarland University, focusing on AI to support marginalized communities in the Global South. My research focus is Human-Computer Interaction (HCI) and Information Technology and Development (ICTD). I finished my PhD at Carnegie Mellon University involved designing and deploying a chatbot for teacher professional development in Côte d'Ivoire, impacting over 400 teachers and over 10,000 rural students. Besides my thesis, I have worked on projects in Rwanda, the US, Macau, Afghanistan, Germany, India and South Africa with publications in top tier HCI venues like CHI, COMPASS, ICTD, and PDC. I have secured over \$200,000 in grants, including a Gates Foundation award and a fellowship during my PhD. I have co-led *HCI Across Borders*, a community of global researchers withing HCI by conducting workshops at CHI for over 6 years, mentored 25+ students and reviewed 80+ HCI papers.

Education

Carnegie Mellon University

PhD, HUMAN-COMPUTER INTERACTION

Pittsburgh, USA

2017– Aug 2023

- 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
- Research involved field work and technology deployment in rural Côte d'Ivoire

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

Research Experience

Saarland University

POSTDOCTORAL FELLOW

Saarbrücken, Germany

October 2023 – present

- Host: Prof. Ingmar Weber
- Supervising PhD students on projects related to HCI4D and NLP
- Exploring the role of Generative AI for various projects in the Global South

Carnegie Mellon University, Africa

VISITING RESEARCHER

Kigali, Rwanda

Summer - 2018, 2019, Spring 2020

- Host: Prof. Tim Brown
- Project: Design of a Phone Call-Based Health Information System
- Conducted participatory research with rural women and prototyped an IVR system in rural Rwanda

United Nations University Computing and Society

RESEARCH INTERN

Macau, SAR, China

July 2017 – Sept 2017

- Advisor: Dr. Mamello Thinayne
- Conducted participatory design with a local NGO
- Built a mobile app to report and monitor homelessness in Macau

Carnegie Mellon University

RESEARCH ASSISTANT

Pittsburgh, USA

Aug. 2015 - June. 2017

- Advisor: Prof. Jen Mankoff
- Longitudinal eating detection: deployed and evaluated the system to 12 users in the field
- 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

Grants (\$208K) and Awards

2025-	Gates Foundation, Grand Challenges India (Co-PI) , A LLM enabled community centered platform for sexual and mental wellness among youth and women in rural India (in progress) - 100,000 USD	India
2019	PhD Fellowship , Center for Machine Learning and Health - 100,000 USD	Pittsburgh PA
2023	SIGCHI Development grant , HCIXB Workshop at CHI - 8000 USD	
2019	Best Paper Award , ACM COMPASS Paper	Accra, Ghana
2019	Poster Spotlight , ACM COMPASS Poster	Accra, Ghana

Work in progress

- [4] Verma R., **Cannanure V.K.**, Weber I. *Exploring AI in Education: Child-Computer Interaction in the Global South*. Minor revisions to ACM Journal of Computing and Sustainable Systems.
- [3] Zhu J., Kempermann M., **Cannanure V.K.**, Hartland A., Navarrete R., Carteny G., Braun D., Weber I. *Learn, Explore and Reflect by Chatting: Understanding the Value of an LLM-Based Voting Advice Application*. Submitted to CUI 2025.
- [2] Adhikari D.M., **Cannanure V.K.**, Hartland A., Weber I. *Exploring LLMs for Automated Generation and Adaptation of Questionnaires*. Submitted to CUI 2025.
- [1] Wolf, S., Ogan, A., Jasińska, K., Kembou, S., **Cannanure, V.K.**, Whitehead, H., Corbett, J., Tanoh, F., Wortsman, B., Lim, J., Zhao, H., Kumar, A. *Impacts of Targeted Instruction with Mobile-based Support on Teachers and Students in Rural Côte d'Ivoire*. Submitted to American Educational Research Journal.

Book chapters

- [1] Gautam A., Wong-Villacrés M., Gaytán Lugo L.S., **Cannanure V.K.**, Vannini S., Jimenez A., Tuli A., Reynolds-Cuellar P., Pei L., Alvarado Garcia A., Badillo-Urquiola K., Prietch S.S., Densmore M., Banganayi T., Dray S. *Human-Computer Interaction Across Borders: Perspectives from the Global South*. In *The Human-Computer Interaction Handbook* (4th ed.), Julie A. Jacko (Ed.). CRC Press, 2026.

Selected Publications

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

- [13] **Cannanure V.K.**, Ngoon T., Wolf S., Jasińska K., Brown T.X., Ogan A. *A Design-Based Research Approach to Bridge Teacher Aspirations and Goal-Setting*. accepted to ACM Journal of Computing and Sustainable Systems. (in press)
- [12] Behmanush H., Akhtari F., Nooripoor R., Weber I, **Cannanure V.K.**. *Online Learning and GenAI: Supporting Women's Aspirations Amid Socio-Political Instability in Afghanistan*. accepted to ACM COMPASS 2025.
- [11] **Cannanure V.K.**, Ngoon T., Wolf S., Jasinska K., Brown T., Ogan A. *Understanding the Longitudinal Impacts of a Chatbot to Facilitate a Virtual Community of Practice for Teachers in Rural Côte d'Ivoire*. ACM COMPASS 2024, Delhi, India.
- [10] Ngoon T., **Cannanure V.K.**, Wolf S., Jasinska K., Brown T., Ogan A. *"I believe I did not preach into the desert": Opportunities & Challenges in Scaling Teacher Mentorship through Mobile Technology in Rural Côte d'Ivoire*. L@Scale 2024, Atlanta, USA.
- [9] **Cannanure V.K.**, Ávila E., Ngoon T., Adjii 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 Côte 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, April 2020, Hawaii, USA.
- [5] Madaio M., **Cannanure V.K.**, Yarzebinski E., Zasacky 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, June 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 Conference (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).

Short Papers

- [5] Mensah E.E., **Cannanure V.K.**, Weber I. *Ethnic Diversity and Spatial Dynamics in Google Maps Reviews: Insights from a German Border City*. ICWSM poster.
- [4] **Cannanure V.K.**, Wolf S., Jasińska K., Brown T.X., Ogan A. *Applying Think-Aloud in ICTD: A Case Study of a Chatbot Use by Teachers in Rural Côte d'Ivoire*. ICTD '24, Dec, 2024, Nairobi, Kenya.
- [3] Adhikari D.M., **Cannanure V.K.**, Hartland A., Weber I. *Exploring LLMs for Automated Pre-Testing of Cross-Cultural Surveys*. ICTD '24, Dec, 2024, Nairobi, Kenya.
- [2] **Cannanure V.K.**, Behmanush H., Akhtary F., Nooripour R., Weber I. *Exploring the role of Generative AI in supporting Women's Aspirations for Learning Programming during Socio-Political Conflict in Afghanistan*. ACM COMPASS 2024, Delhi, India.
- [1] **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]

Workshops and Lightly reviewed work

- [8] Nkundineza D., Mthoko H., Toyama K., Wyche S., Brown T.X., **Cannanure V.K.** *HCI Across Borders and Aspirations*. ICTD '24, Dec, 2024, Nairobi, Kenya.
- [7] Nourian L., Goldenberg Y., Adamu M., **Cannanure V.K.**, Holloway C., Kumar N., Reinecke K., Tigwell G.W. *Challenges and Considerations for Accessibility Research Across Cultures and Regions*. ASSETS '24, Oct, 2024, St. John's, NL, Canada.
- [6] **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. (2023). *HCI Across Borders: Towards Global Solidarity*. CHI '23, Apr 2022, Hamburg, Germany.
- [5] **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.

- [4] **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 '21, Apr 2021, Yokohama, Japan.
- [3] 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
- [2] Ávila E., Greenholt M. , Adjil 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
- [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]

Selected Press

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*
HCII *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*

Teaching Experience

AI and the Global South (Block Seminar)

LEAD INSTRUCTOR

Summer 2025 (forthcoming)

Saarland University

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

Elements of Data Science and Artificial Intelligence

COURSE COORDINATOR. INSTRUCTOR: INGMAR WEBER

Fall 2024

Saarland University

Professional Service

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| 2024 | Lead Organizer , HCI Across Borders (HCIXB) workshop at ACM COMPASS | Delhi, India |
| 2023 | Lead Organizer , HCI Across Borders (HCIXB) workshop at CHI | Hamburg, Germany |
| 2022 | Lead Organizer , HCI Across Borders (HCIXB) workshop at CHI | New Orleans, USA |
| 2021 | Lead Organizer , HCI Across Borders (HCIXB) workshop at CHI | Yokohama, Japan |
| 2020 | Organizer , HCI Across Borders (HCIXB) symposium at CHI | Hawaii, USA |
| 2019 | Organizer , HCI Across Borders (HCIXB) symposium at CHI | Glasgow, UK |
| 2019 | Organizer , Young Researchers reception ICTDx | Ahmedabad |
| 2020-22 | SIGCHI Development Fund , Executive Committee | |
| 2024 | Programme Committee , COMPASS 2025, AFRICHI 2025, ICTD 2024 | |
| 2020- | AC , CHI (extended abstracts) 2023,2022,2021,2020 | |
| 2018- | Regular Reviewer (over 80 papers reviewed) , CHI, COMPASS, ICTD, CSCW, CHI case studies | |

Mentoring

PhD

Ethel Mensah: Saarland University, PhD : *Exploring structural inequality in Germany using POI data*
Hamayoon Behmanush: Saarland University, PhD : *Supporting Afghan women learn programming*

Masters

Divya Mani Adhikari: Saarland University, MS 2024: *Automated Survey Testing using LLMs*
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 Africa, 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 Mbadí: 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

Riti Verma: Indian Institute of Technology, Delhi: *Exploring the role of AI in the Global South*
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*

Professional Experience

Carnegie Mellon University

Pittsburgh, USA

SENIOR WEB DEVELOPER

July 2015 – June 2017

- Advisor: Prof. Geoff Gordon
- Built and managed educational technology to support online learning
- Prototyping low cost video recording system for teaching courses

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

Skills

Programming	Python, PHP, HTML/CSS, JavaScript, Android, Arduino, iOS
Technologies	Pandas, 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

Other

- **Philanthropy** Raised over \$20,000 for charity for causes in India through swimming and crowd-sourcing
- **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 taught 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