

# 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.

## Research Experience

### Saarland University

Saarbrücken, Germany

POSTDOCTORAL FELLOW

October 2023 – present

- Host: Prof. Ingmar Weber
- Leading a research area at the intersection of HCI and ICTD
- Co-supervising PhD and Master's students on projects in HCI and Generative AI
- 🧑🏫 Co-PI on a \$100,000 Gates Foundation grant to co-design a youth wellness platform in rural India
- Lead instructor for a seminar course on "AI and the Global South"
- Key publications: [P12, P11, P13, S5]

## Education

### Carnegie Mellon University

Pittsburgh, USA

PhD, HUMAN-COMPUTER INTERACTION

2017– Aug 2023

- Advised by Prof. Tim Brown and Prof. Amy Ogan
- Committee: Prof. Chinmay Kulkarni, Prof. Mayank Goel, and Prof. Kentaro Toyama (University of Michigan)
- Dissertation: *DIA: Supporting Teacher Professional Development in Low Infrastructure Settings*
- Led multi-year fieldwork and chatbot deployments for teachers in rural Côte d'Ivoire
- 🏆 Awarded \$100,000 Fellowship from the Center for Machine Learning and Health (CMLH)
- Key publications: [P6, P7, P8, P9, P10, P14]

### Carnegie Mellon University

Pittsburgh, USA

MASTERS, HUMAN-COMPUTER INTERACTION

2017–2021

### Carnegie Mellon University

Pittsburgh, USA

MASTERS, EDUCATIONAL TECHNOLOGY AND APPLIED LEARNING SCIENCE

2014–2015

### National Institute of Technology Karnataka

Karnataka, India

BACHELOR OF TECHNOLOGY

2007–2011

## Grants (\$208K USD) and Awards

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

## Book chapters

[B1] 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.

## Work in progress

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- [W2] Verma R., Weber I., **Cannanure V.K.**. *Exploring AI in Education: Child-Computer Interaction in the Global South*. Minor revisions to ACM Journal of Computing and Sustainable Systems.
- [W1] 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.

## Selected Publications

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Publications appear in top-tier venues in HCI and ICTD, including *CHI*, *ICTD*, and *COMPASS*.

As of 2025: **298 citations**, **h-index: 9** Google Scholar: [HVuuUzwAAAAJ](https://scholar.google.com/citations?user=HVuuUzwAAAAJ) ORCID: [0000-0002-0944-7074](https://orcid.org/0000-0002-0944-7074)

- [P14] **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).
- [P13] 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*. Accepted at *ACM CUI 2025*.
- [P12] Adhikari D.M., **Cannanure V.K.**, Hartland A., Weber I. *Exploring LLMs for Automated Generation and Adaptation of Questionnaires*. Accepted at *ACM CUI 2025*.
- [P11] 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*.
- [P10] **Cannanure V.K.**, Ngoon T., Wolf S., Jasińska 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. [\[Link\]](#)
- [P9] Ngoon T., **Cannanure V.K.**, Wolf S., Jasińska 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. [\[Link\]](#)
- [P8] **Cannanure V.K.**, Ávila E., Ngoon T., Adjii Y., Wolf S., Jasińska 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. [\[Link\]](#)
- [P7] **Cannanure V.K.**, Brown T., Ogan A. *DIA: A Human-AI Hybrid Chatbot for Low-Resource Contexts*. *ICTD 2020*, Guayaquil, Ecuador. [\[Link\]](#)
- [P6] **Cannanure V.K.**, Souvenir J., Adjii Y., Apke H., Jasińska 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. [\[Link\]](#)
- [P5] Madaio M., Yarzebinski E., **Cannanure V.K.**, Zinszer B., Seri A., Tanoh F., Hannon-Cropp J., Cassell J., Jasińska K., Ogan A. *Collective Support and Independent Learning with a Voice-Based Literacy Technology in Rural Communities*. *CHI 2020*, Hawaii, USA. [\[Link\]](#)
- [P4] Madaio M., **Cannanure V.K.**, Yarzebinski E., Zasacky S., Tanoh F., Hannon-Cropp J., Cassell J., Jasińska K., Ogan A. *"You Give a Little of Yourself": Family Support for Children's Use of an IVR Literacy System*. *ACM COMPASS 2019*, Accra, Ghana. 🏆 Best Paper Award [\[Link\]](#)
- [P3] **Cannanure V.K.**, Brown T. *RASP-IVR: A Low-Cost Interactive Voice Response System*. *AfriCHI 2018*, Windhoek, Namibia. [\[Link\]](#)
- [P2] Onafuwa D., Early K., Vyas N., **Cannanure V.K.**, Mankoff J. *Understanding the Information Needs of Prospective Tenants*. *ACM COMPASS 2018*, San Francisco, USA. [\[Link\]](#)

- [P1] 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), Hasselt and Genk, Belgium. [\[Link\]](#)

## Selected Short Papers

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- [S5] Mensah E.E., **Cannanure V.K.**, Weber I. *Ethnic Diversity and Spatial Dynamics in Google Maps Reviews: Insights from a German Border City*. ICWSM 2025 (poster).
- [S4] **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 2024, Nairobi, Kenya. [\[arXiv\]](#)
- [S3] Adhikari D.M., **Cannanure V.K.**, Hartland A., Weber I. *Exploring LLMs for Automated Pre-Testing of Cross-Cultural Surveys*. ICTD 2024, Nairobi, Kenya. [\[arXiv\]](#)
- [S2] **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.
- [S1] **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), Victoria, Canada. [\[Link\]](#)

## Selected Workshops and Lightly reviewed work

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- [L7] 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.
- [L6] **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.
- [L5] **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.
- [L4] **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.
- [L3] 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
- [L2] Ávila E., Greenholt M. , Adjji 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
- [L1] **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]

## Teaching Experience

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### 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

## Professional Service

2024	<b>Lead Organizer</b> , HCI Across Borders (HCIXB) workshop at ACM COMPASS	Delhi, India
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>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
2020-22	<b>SIGCHI Development Fund</b> , Executive Committee	
2024	<b>Programme Committee</b> , COMPASS 2025, AFRICHI 2025, ICTD 2024	
2020-	<b>AC</b> , CHI (extended abstracts) 2023,2022,2021,2020	
2018-	<b>Regular Reviewer (over 80 papers reviewed)</b> , CHI, COMPASS, ICTD, CSCW, CHI case studies	

## Mentoring

### PhD

- \***Ethel Mensah**: Saarland University, PhD : *Exploring structural inequality in Germany using POI data* (5)
- \***Hamayoon Behmanush**: Saarland University, PhD : *Supporting Afghan women learn programming* (2)

### Masters

- \***Divya Mani Adhikari**: Saarland University, MS 2024: *Automated Survey Testing using LLMs* (3)
- 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, MSIIPM 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 Mbadi**: 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*

\*indicates during postdoc at Saarland University

## Professional Experience

## Carnegie Mellon University, Africa

VISITING RESEARCHER

- 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

Kigali, Rwanda

Summer - 2018, 2019, Spring 2020

## United Nations University Computing and Society

RESEARCH INTERN

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

Macau, SAR, China

July 2017 – Sept 2017

## Carnegie Mellon University

SENIOR WEB DEVELOPER

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

Pittsburgh, USA

July 2015 – June 2017

## Carnegie Mellon University

RESEARCH ASSISTANT

- 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

Pittsburgh, USA

Aug. 2015 - June. 2017

## TeliportMe Inc: Indian startup

WEB ARCHITECT

- 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

Karnataka, IN

Jul 2011- Aug 2014

## 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*

**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*

## Skills

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**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

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- **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