

Fernanda Ventorim

✉ f.ventorim@uci.edu • 🌐 Website • 🌐 LinkedIn

Education

Ph.D. in Computer Science

University of California Irvine (UCI)

Advisor: Prof. Nalini Venkatasubramanian

2024-Present

Irvine/CA – USA | GPA: 4.00/4.00

M.Sc. in Computer Science

University of California Irvine (UCI)

2022-2024

Irvine/CA – USA | GPA: 3.79/4.00

M.Sc. in Urban Planning

Fluminense Federal University (UFF)

Advisor: Prof. Vinicius M. Netto

2018-2020

Niterói/RJ – Brazil | GPA: 9.73/10

B.Sc. in Architecture and Urban Planning

Brazilian College (Multivix)

Advisor: Prof. Renata Lórá

2012-2016

Vitória/ES – Brazil | GPA: 8.38/10

Research Interests

Data Science. Internet of Things. Smart Resilient Communities. Disaster Resilience.

Professional Experience

Ph.D. Student

Department of Computer Science, University of California, Irvine

Distributed Systems Middleware Group

2024-Present

M.Sc. Student

Department of Computer Science, University of California, Irvine

2022-2024

M.Sc. Student

Department of Urban Planning, Fluminense Federal University, Niterói/RJ-Brazil

Vinicius M. Netto's Lab

2018-2020

Undergraduate Student Internship

Petrobras – Vitória/ES-Brazil

Assisted in developing and managing projects within civil construction and architectural design, contributing to the planning and execution phases.

2015-2016

Academic Experience

Graduate Teaching Assistant

Department of Computer Science, University of California, Irvine/CA

CS121 - Information Retrieval | W24

ICS32 - Programming with Software Libraries | F23, Su23, S23, S24, F25

ICS139W - Critical Writing | W23, W25, S25

ICS31 - Introduction to Programming | F22

Department of Urban Planning, Fluminense Federal University, Niteroi/RJ
Production and Management of Urban Land Use | S19

Undergraduate Learning Assistant

Department of Architecture and Urbanism, Brazilian College, Vitoria/ES
Environmental Comfort I | S15
Visual Arts | F12

Other Academic Activities

Assistant Editor for Urban Morphology Journal – ISSN 2182-7214 (2019-2021).

Graduate Student Representative (2018).

Certificate degree: Teaching and Management in Higher Education (2016-2017) - Research: *Between practice and teaching in Architecture and Urbanism* | GPA: 9.67/10.

Awards and Scholarships

M.Sc. Scholarship: Full M.Sc. funding scholarship from the Brazilian research agency CAPES (2018).

Undergraduate Research Scholarship: Scholarship from the Brazilian research agency FAPES (2014).

Research Projects

Graduate Student Researcher – UCI

2024-Present

Project: "CareDEX: Enabling disaster resilience in aging communities via a secure data exchange"

Supervisor: Prof. Nalini Venkatasubramanian

This project aims to enhance and transform the resilience of older adults in our communities during disasters – this population group is often severely impacted during large events due to the lack of effective triage, comfort, and care. Through the use of a smart-space platform called CareDEX, this effort will enable the assimilation and exchange of customized care information rapidly between first responders, caregivers in senior housing facilities, and older adults in a secure manner.

Master's Thesis – UFF

2018-2020

Project: "Criminality and urban space: an analysis of the relationship networks between types of crime, victim and spatial location in Rio de Janeiro"

Supervisor: Prof. Vinicius M. Netto

I explored relationships between urban dynamics and crime. I have investigated territorial criminal patterns in Rio de Janeiro, Brazil, to understand how people's spatial location and personal characteristics influence their propensity to become a victim of certain types of crime. I have used a complex network model to group similar criminal occurrences according to the victims' profiles, crime characteristics, and location.

Senior Thesis – Multivix

2017

Project: "Connected Urbanity: a reconciliation between urban voids and open spaces in the Jesus de Nazareth slum"

Supervisor: Prof. Renata Lórá

We analyzed the urban landscape of the Jesus de Nazareth slum, Vitória (ES), Brazil, emphasizing free spaces and urban voids. Our goal was to propose neighborhood revitalization by creating an urban connection between these spaces.

Research project – Multivix

2014

Project: "Morphological analysis of the central streets in Vitória (ES)"

Supervisor: Prof. Agnes Thompson

We developed a type-morphic framework for urban form analysis. The framework captures typological variations in streets through floor plan analysis and cross sections, providing insights into the relationships among physical elements (buildings, lots, and streets) at a graphical scale.

Research project – Multivix

2013-2014

Project: "Analysis of natural lighting performance in drawing classrooms in Vitória (ES)"

Supervisor: Prof. Aline Sauer

We analyze the natural lighting performance of four design classrooms of a higher education institution in Vitória (ES) - Brazil to verify the comfort conditions to which users are subjected.

Publications

Journal Papers

[J-2] **F. C. Ventrorm**; V. M. Netto. 2024. The Hidden Connections of Urban Crime: A Network Analysis of Victims, Crime Types, and Locations in Rio de Janeiro. *Urban Science*, 8(2):72. <https://doi.org/10.3390/urbansci8020072>

[J-1] **F. C. Ventrorm**; V. M. Netto. 2023. Crime and urban space: the relationship networks between crime, victims and location in Rio de Janeiro. *urbe. Revista Brasileira de Gestão Urbana*, 15, p.e20220141. <https://doi.org/10.1590/2175-3369.015.e20220141>

Conference Proceedings

[C-5] M. M. Kenne; **F. Ventrorm**; C. Cossey; Z. Hu; J. Rousseau; N. Venkatasubramanian. 2025. *RADAR: Resource Allocation for Disaster Resilience in Senior Health Care*. In: Proceedings of the 33rd ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL'25), 1–14.

[C-4] **F. C. Ventrorm**; F. P. Dias; J. T. Araujo; R. M. Correa. 2019. *Contemporary city and appropriation of public space: notes on a sensitive analysis of public spaces in the Botafogo neighborhood in Rio de Janeiro/RJ*. In: 8 Conferência da Rede Lusófona de Morfologia Urbana – PNUM, Maringá, 879-895.

[C-3] **F. C. Ventrorm**; R. M. Lora. 2017. *Connected urbanity: a reconciliation between urban voids and open spaces in the Jesus de Nazareth slum*. In: 6 Conferência da Rede Lusófona de Morfologia Urbana – PNUM, Vitória, 293-301.

[C-2] **F. C. Ventrorm**; R. M. Lora. 2016. *Urban voids in a segregated city: an analysis of the Jesus de Nazareth slum, Vitória – ES*. In: III Fórum Habitar, Belo Horizonte.

[C-1] **F. C. Ventrorm**; L. R. Bragatto; M. L. Rodrigues; I. P. Dias; A. C. Marques; A. C. Diniz; G. Achiamé; A. S. Sauer; F. Rembiski. 2014. *Analysis of natural lighting performance in drawing classrooms in Vitória (ES)*. In: XV Encontro Nacional de Tecnologia do Ambiente Construído – ENTAC, Maceió, 897.

News and Media Mentions

[N-1] Alana Gandra. *CNN Brazil*. <https://www.cnnbrasil.com.br/nacional/mulheres-sao-maiores-alvos-da-criminalidade-no-rio-de-janeiro-diz-estudo/>

Skills

Programming and Tools:

Python, Anaconda, Jupyter Notebooks, LaTeX

ArcGIS, Stata, Figma, HTML, Grafana, AWS, Linux, Windows, Raspberry Pi