

Karina Mochetti

OVERVIEW

I was born in Sao Paulo, Brazil. I hold a master and PhD degree in computer science from UNICAMP and a bachelor degree in computer engineering also from UNICAMP. I did part of my PhD in Paris at the École Normale Supérieure (ENS), and in 2013, I was an intern at Google for 6 months. I have a strong interest in the gender gap and diversity in STEM, having published articles addressing this issue and received awards such as the Google Brazil Women in Technology Award in 2009. I graduated with a postgraduate degree in Teaching in Higher Education in 2019 and worked as an Adjunct Professor at Fluminense Federal University (UFF) for 4 years. I was coordinator of the projects Include Meninas UFF group about women in computers and ECOS Project about computing and education in partnership with KDE. Now I am an Assistant Professor of Teaching at the University of British Columbia, and my recent research interests include computing & education, especially math theory for CS.

EDUCATION

Academic Specialization in Higher Education Teaching

2018 - 2019

National Service For Commercial Education (SENAC), Brazil

Project Title: Using Active Learning in a Computer and the Environment Class for IT students

Postdoctoral Research in Computer Science

2015 - 2015

State University of Campinas (UNICAMP), Brazil

Project Title: Formal Security Analysis of Authentication Protocols Based on PUFs

Advisor: Diego Aranha

PhD in Computer Science

2009 - 2014

State University of Campinas (UNICAMP), Brazil

Project Title: Lattice-Based Predicate Encryption

Advisor: Ricardo Dahab and Michel Abdalla

Period Abroad: École Normale Superieure (ENS), Paris, France

GPA: 4.00

Master in Computer Science

2007 - 2009

State University of Campinas (UNICAMP), Brazil

Project Title: A Public Alternative for the Raster Watermarks for Vector Maps (RAWVec) Method

Advisor: Ricardo Dahab

GPA: 4.00

Bachelor in Computer Engineering

2002 - 2006

State University of Campinas (UNICAMP), Brazil

Project Title: The Point Based Rendering Evolution and its Application on Medical Images

Advisor: Alexandre Falcão GPA: 3.2232, Rank: 12/99

PROFESSIONAL EMPLOYMENT

Assistant Professor of Teaching

2019 -

University of British Columbia (UBC), Canada

Adjunct Professor 2015 - 2019

Fluminense Federal University (UFF), Brazil

Taught 18 courses and advised over 30 undergraduate students.

Not accredited to work in graduate school.

Software Engineer Internship

2013 - 2014

Google, Brazil

Worked at Google My Business Project.

TEACHING EXPERIENCE

- Models of Computing at UBC, Canada as Main Instructor (09/2024 12/2024) 2 sections.
- Models of Computing at UBC, Canada as Main Instructor (01/2024 04/2024) 3 sections.
- Models of Computing at UBC, Canada as Main Instructor (09/2023 12/2023) 2 sections.
- Models of Computing at UBC, Canada as Main Instructor (09/2022 12/2022) 3 sections.
- Models of Computing at UBC, Canada as Main Instructor (01/2022 04/2022) 3 sections.
- Models of Computing at UBC, Canada as Main Instructor (09/2021 12/2021) 1 section.
- Introduction to Systematic Program Design at UBC, Canada as Main Instructor (09/2021 12/2021) 1 section.
- Models of Computing at UBC, Canada as Main Instructor (01/2021 04/2021) 2 sections.
- Introduction to Systematic Program Design at UBC, Canada as Main Instructor (01/2021 04/2021) 1 section.
- Models of Computing at UBC, Canada as Main Instructor (09/2020 12/2020) 2 sections.
- Introduction to Systematic Program Design at UBC, Canada as Main Instructor (co-teaching with Steve Wolfman) (01/2020 04/2020) 1 section.
- Mobile Development at UFF, Brazil as Main Instructor (03/2019 07/2019) 1 section.
- Computer Programming II at UFF, Brazil as Main Instructor (03/2019 07/2019) 1 section.

- Computing and the Environment at UFF, Brazil as Main Instructor (03/2019 07/2019) 1 section.
- Graph Theory and Algorithms at UFF, Brazil as Main Instructor (08/2018 12/2018) 1 section.
- Structured Programming at UFF, Brazil as Main Instructor (08/2018 12/2018) 1 section.
- Computer Programming for Engineers at UFF, Brazil as Main Instructor (08/2018 12/2018) 1 section.
- Computing and the Environment at UFF, Brazil as Main Instructor (03/2018 07/2018) 1 section.
- Design and Analysis of Algorithms at UFF, Brazil as Main Instructor (03/2018 07/2018) 1 section.
- Information Security at UFF, Brazil as Main Instructor (08/2017 12/2017) 1 section.
- Data Structures at UFF, Brazil as Main Instructor (08/2017 12/2017) 1 section.
- Computer Architecture at UFF, Brazil as Main Instructor (03/2017 07/2017) 1 section.
- **Programming Challenges** at UFF, Brazil as Main Instructor (03/2017 07/2017) 1 section.
- Information Security at UFF, Brazil as Main Instructor (09/2016 01/2017) 1 section.
- Computer Programming II at UFF, Brazil as Main Instructor (09/2016 01/2017) 1 section.
- Design and Analysis of Algorithms at UFF, Brazil as Main Instructor (04/2016 07/2016) 1 section.
- Computer Programming for Engineers at UFF, Brazil as Main Instructor (04/2016 07/2016) 1 section.
- Computer Programming II at UFF, Brazil as Main Instructor (11/2015 03/2016) 1 section.
- Computer Programming for Engineers at UFF, Brazil as Main Instructor (11/2015 03/2016) 1 section.
- Computer Programming for Engineers at UNICAMP, Brazil as Main Instructor (08/2014 12/2014) 1 section.
- Data Structures at UNICAMP, Brazil as Teaching Assistant (03/2011 07/2011) 1 section.
- Scientific Writing at UNICAMP, Brazil as Teaching Assistant (03/2009 07/2009) 1 section.
- Scientific Writing at UNICAMP, Brazil as Teaching Assistant (08/2008 12/2008) 1 section.
- Data Structures at UNICAMP, Brazil as Teaching Assistant (08/2007 12/2007) 1 section.

PUBLICATION

- 26. J. Niu, J. Wong, C. Lake, J. Rahardjo, H. Zarkoob, O. Ola, P. Belleville, <u>K. Mochetti</u>, M. Allen, F. Moosvi, and S. Wolfman, "Expanding the Horizons of Autograding: Innovative Questions at UBC", Full Paper in *SigCSE* at Pittsburgh, USA (2025).
- 25. I. Blasco and <u>K. Mochetti</u>, "Assessing the Influence of ChatGPT on Student Outcomes in a Models of Computing Course", Extended Abstract in *SigCSE* at Pittsburgh, USA (2025).
- 24. C. Lake and <u>K. Mochetti</u>, "Logic Circuits Unveiled: Bridging the Gap between Discrete Mathematics and Computer Science Education.", Full Paper in *WCCCE* at Kelowna, Canada (2024).
- 23. J. Niu, J. Wong, C. Lake, J. Rahardjo, H. Zarkoob, O. Ola, P. Belleville, <u>K. Mochetti</u>, M. Allen, F. Moosvi, and S. Wolfman, "Expanding the Horizons of Autograding: Innovative Questions at UBC", Full Paper in *SiqCSE* at Pittsburgh, USA (2025).
- 22. <u>K. Mochetti</u>, T. Ururay, C.H.D.C. Santos, "Active Learning Methods applied to an Environmental Awareness Course for CS majors", Full Paper in *CSERC* at Online Meeting (2022).
- 21. <u>K. Mochetti</u>, "The Impact of Women in Computer Science History: A Post-War American History", Journal Paper in *Transversal* at Special Issue on the Work of Women in Sciences and Philosophy (2019).
- 20. M. Avelino, L. Salgado, R. Bravo, <u>K. Mochetti</u>, C. Leitão, "Factors Affecting Female Students Motivation Related to Enrollment and Retention in Information Technology Courses", Journal Paper in *Clei Electronic Journal* at Volume 22, Number 2 (2019).
- 19. <u>K. Mochetti</u>, C.H.D.C. Santos, J. P. A. de Souza, "Using Active Learning to Teach Unix Commands", Extended Abstract in *Computer on the Beach* at Florianópolis, Brazil (2019).
- 18. C.A. Damas, <u>K. Mochetti</u>, "An analysis of homophobia on vandalism at Wikipedia", Extended Abstract in *RESPECT* at Minneapolis, USA (2019).
- 17. L. Oliveira, K. Calaza, A. Latge, A. Di Maio, C. Lima, H. Castro, H. Araujo, <u>K. Mochetti</u>, K. Damasio, L. Argueta, M. Vargas and V. Tostes, "Manual de boas práticas para processos seletivos", Guide in *UFF* at Niterói, Brazil (2018).
- 16. C. Braga and <u>K. Mochetti</u>, "Programming teaching tools and the gender gap in the Information Technology field", Full Paper in *CBIE WIE* at Fortaleza, Brazil (2018).
- 15. C. Braga and <u>K. Mochetti</u>, "O impacto de Ferramentas de Aprendizagem na Discrepância de Gênero em Computação", Extended Abstract in *Computer on the Beach* at Florianópolis, Brazil (2018).
- 14. <u>K. Mochetti</u>, "Dijkstra, um pioneiro em todas as áreas", Magazine Article in *SBC Horizontes* at Brazil (2017).
- 13. D.S. Macedo, K.M.A.T. Bentes, M.F. Ferreira and <u>K. Mochetti</u>, "Uma análise sobre a falta de mulheres editando a Wikipédia", Extended Abstract in *IWSC* at Niterói, Brazil (2017).

- 12. <u>K. Mochetti</u>, R. Bravo, L. Salgado, C. Leitão, C. Braga, G. Hecksher and K. Pontes, "Discussão da Posição de Calouras de Ciência da Computação", Extended Abstract in *CSBC WIT+MD* at São Paulo, Brazil (2017).
- 11. <u>K. Mochetti</u>, "Ada Lovelace e o Primeiro Programa de Computador", Magazine Article in *SBC Horizontes* at Brazil (2017).
- 10. M.R.E. Avelino, L. Salgado, <u>K. Mochetti</u>, R. Bravo and A. Paes, "Como o estímulo pode influenciar na escolha de um caminho acadêmico?", Full Paper in *SEMEXT* at Niterói, Brazil (2016).
- 9. <u>K. Mochetti</u>, "Alan Turing e a Enigma", Magazine Article in SBC Horizontes at Brazil (2016).
- 8. <u>K. Mochetti</u>, L. Salgado, A.V. Zerbinato, B.L. Souza and M.R.E. Avelino, "Ciência da Computação também é coisa de menina!", Extended Abstract in *CSBC WIT+MD* at Porto Alegre, Brazil (2016).
- 7. <u>K. Mochetti</u>, A. Resende and D. Aranha, "zkPAKE: A Simple Augmented PAKE Protocol", Extended Abstract in *SBSeg* at Florianopolis, Brazil (2015).
- A. Resende, <u>K. Mochetti</u>, and D. Aranha, "PUF-Based Mutual Multifactor Entity and Transaction Authentication for Secure Banking", Full Paper in *LightSec* at Bochum, Germany (2015).
- 5. <u>K. Mochetti</u>, and R. Dahab, "Expanding a Lattice-Based HVE Scheme", Full Paper in *SBSeg* at Belo Horizonte, Brazil (2014).
- 4. <u>K. Mochetti</u>, and R. Dahab, "Ideal Lattice-Based (H)IBE Scheme", Technical Report in *IC/UNICAMP* at Campinas, Brazil (2014).
- 3. M. Abdalla, A. De Caro, and <u>K. Mochetti</u>, "Lattice-Based Hierarchical Inner Product Encryption", Full Paper in *Latincrypt* at Santiago, Chile (2012).
- 2. <u>K. Magalhães</u>, and R. Dahab, "SB-RAWVec A Semi-Blind Watermarking Method For Vector Maps", Full Paper in *ICC* at Dresden, Germany (2009).
- 1. D. Marques, <u>K. Magalhães</u>, and R. Dahab, "RAWVec A Method For Watermarking Vector Maps", Full Paper in *SBSeq* at Rio de Janeiro, Brazil (2007).

INVITED TALKS AND CONFERENCE PRESENTATIONS

- Poster presenter in SigCSE at Pittsburgh, USA (2025)
- Poster presenter at Science Education Open House in UBC at Vancouver, Canada (2025)
- Celebrate SoTL in UBC at Vancouver, Canada (2024)
- Computer Science Student Society First Year Panel Event in UBC at Vancouver, Canada (2024)
- Faculty Guest at Queer Code in UBC at Vancouver, Canada (2024)
- Poster presenter in SigCSE at Portland, USA (2024)

- Speaker at the Spiffy Assessments with PrairieLearn in SigCSE at Portland, USA (2024)
- Faculty Guest at WiDS@UBC AlumNight Event in UBC at Vancouver, Canada (2023,2024)
- Active Learning Methods applied to an Environmental Awareness Course for CS majors in CSERC at Online (2022)
- Faculty Guest at Queer Code in UBC at Vancouver, Canada (2022)
- Faculty Speaker at BizTech's annual MIS Night in UBC at Vancouver, Canada (2021)
- Faculty Speaker at SUS Coffee Chat in UBC at Vancouver, Canada (2021)
- Faculty Speaker at Career Panel in UBC at Vancouver, Canada (2020)
- Programming teaching tools and the gender gap in the Information Technology field in CBIE WIE at Fortaleza, Brazil (2018)
- A Girl's Life in Computing... Told with Memes in National Meeting of Women in Technology at Rio de Janeiro, Brazil (2018)
- How to Survive College in Computing Week at UFF (SEMCOMP) at Rio das Ostras, Brazil (2018)
- Pedagogical Approaches and the Disparity of Genres in the Information Technology Area in National Congress of Students in Computing (ENECOMP) at Ouro Preto, Brazil (2017)
- A Girl's Life in Computing... Told with Memes in University, School and Society Integration Program at PUCRJ at Rio de Janeiro, Brazil (2017)
- Quantum Computing in Computing Week at UFF (SEMCOMP) at Niterói, Brazil (2016)
- A Girl's Life in Computing... Told with Memes in University, School and Society Integration Program at PUCRJ at Rio de Janeiro, Brazil (2016)
- Ciência da Computação também é coisa de menina! in CSBC WIT+MD at Porto Alegre, Brazil (2016)
- Expanding a Lattice-Based HVE Scheme in SBSeg at Belo Horizonte, Brazil (2014)
- Lattice-Based Hierarchical Inner Product Encryption in Latincrypt at Santiago, Chile (2012)
- SB-RAWVec A Semi-Blind Watermarking Method For Vector Maps in ICC at Dresden, Germany (2009)
- RAWVec A Method For Watermarking Vector Maps in SBSeg at Rio de Janeiro, Brazil (2007)

HONORS AND AWARDS

- Winner at UBC Open Education Resource Champions, Vancouver, Canada (2024).
- Winner at One of the highest Student Experience of Instruction scores at UBC, Vancouver, Canada (2023).
- Winner at Computer Science Graduation Faculty Teaching Award, Vancouver, Canada (2023).
- Nominated at UBC Killam Teaching Prize, Vancouver, Canada (2022).
- Second Place at Hacking'n'Roll Competition, Brazil (2013).
- Honorable Mention (Fourth Place) at SBC Horizontes Magazine's Students Competition, Brazil (2010).
- Best Poster Award (Third Place) at Workshop of Master Thesis of the Institute of Computing by UNICAMP, Brazil (2009).
- Winner at Google's Brazil Women in Technology Award, Belo Horizonte, Brazil (2009).
- Best Paper Award (First Place) at SBSeg, Rio de Janeiro, Brazil (2007).
- Round 2 Qualified at TopCoder Collegiate Challenge Algorithm Competition (2007).

COURSES AND PROFESSIONAL DEVELOPMENT

- Maximizing Impact Program at UBC (2023-2024).
- Course Design Intensive at CTLT / UBC (06/2021).
- Faculty Instructional Skills Workshop (ISW) at CTLT / UBC (05/2021).
- Teaching Development Program for New Faculty (TDP) at CTLT / UBC (09/2020-04/2021).
- Teaching Psychology at IFRS (07/2020).
- Speaking Clearly in English at UBC Extended Learning (07/2020).
- Public Speaking for International Professionals at UBC Extended Learning (07/2020).

GRANTS

- UBC SAASI Grant by UBC (2024).
- Skylight Development Grant by UBC (2024).
- SoTL Seed Program by UBC (2024).
- SIGCSE Technical Symposium Travel Grant by ACM (02/2019).
- Lakademy (Latin America KDE Summit) Travel Grant by KDE (10/2018).

- Newly Hired Researcher Scholarship by FAPERJ (03/2018).
- Post-Doctorate Scholarship by Intel/FUNCAMP (04/2015 07/2015).
- Research Internship Abroad Scholarship by CAPES (12/2011 06/2012).
- Doctorate Scholarship by FAPESP (11/2010 11/2011; 07/2012 09/2013).
- Doctorate Scholarship by CAPES (03/2009 10/2010).
- Master's Degree Scholarship by FAPESP (03/2007 02/2009).
- Scientific Initiation Scholarship by FAPESP (12/2005 12/2006).

SERVICE TO THE PROFESSION

- Faculty Member of Premier Undergraduate And Wesbrook Scholarship Committee (2022-2024)
- Judge of USRA, SURE and WLIUR Awards (2022, 2024)
- Reviewer of International Society for the Scholarship of Teaching and Learning Conference (ISSOTL) (2022-2024)
- Reviewer of Western Canadian Conference on Computing Education (WCCCE) (2023)
- Member of UBC Faculty Association Status of Women Committee (2022-2023)
- Judge of UBC SCI Team Science Case Competition (2022)
- Judge of UBC Undergraduate 3MT competition (2022)
- Reviewer of Society for Teaching and Learning in Higher Education Annual Conference (STLHE) (2022)
- Undergraduate Thesis Committee Member of Samantha de Almeida Pereira Costa at UFF (2021)
- Faculty Member of UBC Women in Science Program (2021-2022,2024)
- Judge of BCSSA Hackathon (2021)
- Faculty Member of Canada Open-Source Projects (CANOSP) (2020-2022)
- Undergraduate Thesis Committee Member of Caio Lima dos Santos Simões at UFF (2021)
- Member of Student Development Committee at UBC (2021-2022)
- Member of Wellbeing Committee at UBC (2021)
- Faculty Member of *UBC Jump Start Program* (2020-2023)
- Reviewer of AspireIT Program Aspirations in Computing (2020-2023)
- Member of Committee for Outreach, Diversity, and Equity (CODE) at UBC (2020)
- Member of Teaching and Peer Evaluation at UBC (2020)

- Reviewer of ACM Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE) (2019 -2021)
- Reviewer of ACM Technical Symposium on Computer Science Education (SIGCSE) (2018-2022)
- Reviewer of Brazilian Symposium of Information Security and Computer Systems (SBSeg) (2016-2020)
- Reviewer of Women in Information Technology on Brazilian Computer Society Congress (CSBC WIT) (2016-2019, 2021)
- Reviewer of Grace Hopper Conference Scholarship and Posters (2018-2021, 2023)
- Member of Women and Science Work Group at UFF (2018-2019)
- Editor of SBC Horizontes Magazine (2016-2019)
- Reviewer of Regional School of Informatics Rio de Janeiro (ERI-RJ) (2019)
- Selected Attendee of Google Zurich SRE Bootcamp (2019)
- Organizer of Include Meninas Day at IC/UFF (2018)
- Coordinator of Include Meninas UFF, the Women in Technologies group from IC-UFF (2017-2018)
- Member of Computer Science Course Committee at UFF (2018)
- Member of Electrical Engineering Course Committee at UFF (2016-2018)
- Master Thesis Committee Member of João Miquel Barbosa Brandão at UFF (2018)
- Undergraduate Thesis Committee Member of Juliana Jalloule Pessoa at UFF (2018)
- Reviewer of ACM Global Computing Education Conference (CompEd) (2018)
- Reviewer of Science, Technology and Innovation Fair of the State of Rio de Janeiro (FECTI) (2016-2018)
- Local Organizer of Brazilian Olympiad in Informatics (OBI) (2017)
- Organizer of First Hackathon of IC/UFF (2017)
- Undergraduate Thesis Committee Member of Gabriel Cardoso de Carvalho at UFF (2017)
- Undergraduate Thesis Committee Member of Meirylene Rosa Emidio Avelino at UFF (2017)
- Undergraduate Thesis Committee Member of Priscilla Alvares da Costa at UFF (2017)
- Reviewer of Workshop on Computer Education on Brazilian Computer Society Congress (CSBC WEI) (2017)
- Reviewer of International Wikipedia Scientific Conference (IWSC) (2017)
- Reviewer of Brazilian Journal of Information Systems (iSys) (2016-2017)

- Local Organizer of Brazilian Symposium of Information Security and Computer Systems (SBSeg) (2016)
- Vice-Coordinator of Include Meninas UFF, the Women in Technologies group from IC-UFF (2016)
- Undergraduate Thesis Committee Member of Bruno Nascimento Moraes at UFF (2016)
- Selected Attendee of Google Womentechmaker Sao Paulo (2016)
- Volunteer Organizer of The São Paulo Advanced School of Cryptography (SP-ASCrypto) (2011)
- Volunteer Organizer of Brazilian Symposium of Information Security and Computer Systems (SBSeq) (2009)
- Counsellor and Instructor of Brazilian Olympiad in Informatics (OBI) (2008-2009)
- Volunteer of University with Open Doors at UNICAMP (2005)

ADVISING AND MENTORSHIP

- 14. Inaki Blasto "Examining the Impact of ChatGPT on Student Performance in Discrete Mathematics for Computer Science", COGS402 Research in Cognitive Systems at UBC, Canada 2024
- 13. Seyyed Hosseini, Mentor in Computer Science Teaching at UBC, Canada 2024
- 12. Ashish Chopra, Mentor in Computer Science Teaching at UBC, Canada 2021 2022
- 11. Thiago Ururay Fragoso Araújo "Updating Rocs, a graph theory app to aid on the design and analysis of graph algorithms", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2018 2020
- Carlos Alberto Texeira Damas "Analyzing the Quality and Vandalism of Wikipedia's Pages on LGBT Scientists", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2017 - 2019
- 9. Lucas Henrique Tavares Monteiro "Using FFT to detect notes in a Solfège exercise on Minuet", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2018 2019
- 8. Daniel Salles Da Rocha Lopes "A Tool for Supporting Continuous Evaluation", Undergraduate Thesis Advisor in Information Systems at UFF, Brazil 2018 2019
- 7. Felipe Henrique Ferreira de Jesus "IoT Security and Authentication Protocols for Low Cost Embedded System", Undergraduate Thesis Advisor in Information Systems at UFF, Brazil 2017 2018
- 6. Camille Braga Nader da Silva "Evaluating the Motivation of Girls When Using Teaching Tools for Computational Thinking", Undergraduate Research Advisor in Computer Science at UFF, Brazil 2017 2018
- 5. Caio Pereira Sanches "Security Analysis of Web Development Tools", Undergraduate Thesis Advisor in Information Systems at UFF, Brazil 2017 2017

- 4. Henrique Fontenelle Teixeira "The Psychological Model of Memory in a Quantum AI.", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2016 2018
- 3. Alberto Alexandre De Souza Assimos "Practical Analysis of the Lattice Based IPE Scheme", Undergraduate Research Advisor in Computer Science at UFF, Brazil 2016 2017
- 2. William Blanck "Generating Bases for Lattice-Based Cryptographic Schemes", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2016 2017
- 1. Igor Valente Blackman "Simulating Quantum Algorithms in a Classical Computer", Undergraduate Thesis Advisor in Computer Science at UFF, Brazil 2016 2017

LANGUAGES SPOKEN

- Brazilian Portuguese: Native Language
- English: Fluent
 - IELTS with score 7.5/9 (2019)
 - TOEFL with score 96/120 (2010)
 - FCE (First Certificated in English) with grade A (2005)
- French: Basic
 - Level A2 at Institut de Langue Française (ILF) in Paris, France (2012)
 - Alliance Française in Campinas, Brazil (2012 2013)

PROFESSIONAL AFFILIATIONS

- IEDMS Member (2020)
- ACM-SIGCSE Member Number 3473803 (2018)
- ACM Member Number 3473803 (2018)
- SBC Member Number 18891 (2009 2018)