

Curriculum Vitae
Filipe Barata, Dr. sc.
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Personal Data Born: November 11, 1986 in Arganil, Portugal
Nationality: Portuguese and Swiss

Current position

2020 – Postdoctoral Fellow at the [Chair of Information Management](#), Department of Management, Technology, and Economics (D-MTEC), ETH Zurich
Head of AI and digital biomarker research at the [Centre for Digital Health Interventions](#), ETH Zurich & University of St. Gallen

Professional and academic experience

Planned 2022 Lecturer for “Developing Digital Biomarkers” Department of Management, Technology and Economics, ETH Zurich, Switzerland (4 ECTS)
2021 – Co-designing and Co-implementing a novel [Certificate of Advanced Studies](#) (CAS) in “Digital Health” (15 ETCS) offered by the Centre of Digital Health Interventions at ETH Zurich.
2020 Chief Research Officer, [Resmonics AG](#)
2018 Visiting scientist in Biomedical Data Science at the Geisel School of Medicine, Dartmouth College, NH, USA
2013 – 2016 Research & Development Software Engineer, Bruker BioSpin AG, Fällanden, ZH
2011 – 2012 Internship in R&D department of LMS International (Siemens), Leuven, Belgium
2008 Teaching assistant for “Linear Algebra”, Department of Mathematics, ETH Zurich

Education

PhD 2020 Doctor of Sciences (Dr. sc. ETH Zürich), Title: “Enabling a Digital Biomarker for Asthma – Smartphone Contact-Free Audio-Based Nocturnal Cough Monitoring”
Master 2012 M.Sc. ETH Zurich in Electrical Engineering and Information Technology
Bachelor 2010 B.Sc. ETH Zurich in Electrical Engineering and Information Technology
Matura 2005 Bilingual Matura (German-Romansch), Bündner Kantonsschule Chur

Research projects as leading investigator

2020 – Smartphone-based cough detection for chronic diseases, Lead PI
2020 – Cough assignment for verification and identification of patients, Lead PI
2020 – Smart speaker for remote patient monitoring, Lead PI
2020 – Vocal biomarkers for chronic diseases, (CSS insurer, Switzerland), Lead PI

Co-supervised Ph.D. thesis

1 ongoing Towards a Digital Passive Vocal Biomarker for Voice-Based Conversational Agents; David Cleres

Supervised Master students

2016 - Michael Klemmer, Andrea Schwaller, Stefan Jokic, Tobias Stauffer, Mohamed Ibrahim, Zhang Kemeng, Michael Bachmann; theses' topics revolving around smartphone-based cough detection and a digital biomarker for asthma

Honors

2018 STARTUP CAMPUS Award for the “most innovative business idea”: Pitch competition hosted by STARTUP CAMPUS and Innosuisse.
2018 Winner Digital Health Pitch Challenge at the Swiss-at-Slush pre-event: The pitch was awarded by a jury consisting of experts in healthcare and the startup ecosystem.
2018 Impact Award: Contributor to MobileCoach (www.mobile-coach.eu), an open-source platform for ecological momentary assessments and digital health interventions, received the HSG Impact Award of the University of St. Gallen

Funding

2021 Collaborator in proposal submitted to the Canadian Institute of Health, Grant program: Project Grant. Principal investigator: Prof. Sze Man Tse. (submitted); Title: “Mobile Health in Kids with Asthma (MoKA) Study”

2020 Principal Investigator for a project funded by CSS insurer; funding of a PhD position for 4 years; amounts to CHF 740,000. (cf. Research project as leading investigator) (granted); Title: "Towards a Digital Passive Vocal Biomarker for Voice-Based Conversational Agents"

Organization of conferences and workshops

- 2021 Technical program committee member of the workshop on the Future of Digital Biomarkers (DigiBiom) collocated with the 19th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys)
- 2020 Co-organization of the guest lecture entitled "The Relevance of Digital Health for Chronic Pulmonary Conditions: Research Directions & Innovative Interventions" by Prof Dr med Martin H. Brutsche, "Chefarzt of the Klinik für Pneumologie und Schlafmedizin" at the Cantonal Hospital St. Gallen, www.vimeo.com/481187450
- 2020 Program committee member of the poster and demo track of the IEEE International Conference in Health Informatics (ICHI)

Outreach

- 2021 Member of the expert panel at ETH Week 2021 "Health for tomorrow".
- 2021 Two software disclosures and one invention disclosure have been filed by ETH transfer. A patent application (Application No. PAT7466EP00) is currently being sought on smartphone-based cough detection.
- 2021 Invited speaker at the international workshop "[AI based Remote Patient Monitoring and Diagnosis in the pandemic age and beyond \(RPDM\)](#)", Department of Computer Science, at the University of Haifa, Israel
- 2020 Creator of the smartphone-based cough detection technology which lead to the foundation of the startup [Resmonics AG](#), the company offers respiratory disease monitoring using clinically validated biomarkers. The startup has successfully concluded the pre-seed financing round in January 2021.
- 2019 – Representing the chair of Information Management at the MTEC Master's Fair
- 2019 Talk "Transcending the Physical World: A Digital Biomarker for Asthma" at the [WorldWebForum](#) representing ETH, a leading event for decision makers and thought leaders on the future of an interconnected world.
- 2019 Guest lecture entitled "AI in Healthcare: Towards a Digital Biomarker for Asthma" at the Lucerne University of Applied Sciences and Arts
- 2018 Guest lecture entitled "Asthma Control Monitoring" at Dartmouth College, Center for Technology and Behavioral Change, NH, USA
- 2017 Seminar organizer "Introduction to Machine Learning", University of Bamberg
- 2016 – Contributor to [MobileCoach](#), an open-source software platform for digital biomarker and conversational agent research.
- 2016 – Research collaboration with CSS Insurance. In this collaboration, knowledge transfer of research conducted at the Centre of Digital Health Interventions results in strategic decisions, and digital health services and platforms offered by CSS insurance and other insurance companies. Moreover, spin-off companies are supported (e.g., Resmonics AG).

Collaborations

- Since 2021 Prof. Dr. med. Andreas Flammer, Head Heart Failure and Transplantation at University Hospital Zurich; collaboration on the project for this application
- since 2017 Prof. Dr. med. Claudia Steurer-Stey, Epidemiology, Biostatistics and Prevention Institute, University of Zurich; collaboration on doctoral thesis project
- since 2017 Prof. Dr. med. et phil. Milo Puhan, Director of the Institute of Epidemiology, Biostatistics and Prevention Institute, University of Zurich; collaboration on doctoral thesis project
- since 2017 David F. Kotz, Ph.D., Champion International Professor in the Department of Computer Science at Dartmouth College, NH, USA; collaboration on scientific papers on cough monitoring.
- since 2016 Prof. Dr. Dr. med. Martin Brutsche, Director of the Lung Center of the Cantonal Hospital in St.Gallen; collaboration on doctoral thesis project and other studies cough related studies

Publication List

The list of all 30 research contributions are available here:
https://www.researchgate.net/profile/Filipe_Barata3/publications