




Benjamin Gutierrez Serafin

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Research Interests

Ubiquitous Computing, Human–Computer Interaction, Signal Processing, Multimodal Learning, Music and Emotions.

Education

University of Glasgow

PhD in Computing Science and Psychology

Glasgow, UK

Sep. 2023 – present



- Advisors: Prof. [Fahim Kawsar](#)  and Dr. [Tanaya Guha](#) 

University of Bristol

Master of Science in Robotics

Bristol, UK

Sep. 2019 – Sep. 2020


- Thesis: Actions and Reactions in Board Games
- Advisor: Prof. [Dima Damen](#)  and Dr. [Michael Wray](#) 
- Classification: with Distinction

Instituto Tecnológico de Tepic

Bachelor's Degree in Mechatronics Engineering

Nayarit, MX

Aug. 2012 – Jun. 2017

- Project: Commissioning of Robotic Deburring Cell
- Advisor: Dr. [Antonio Navarrete-Guzman](#) 
- GPA: 94.8/100

Research Experience

Device Research Software Department, Nokia Bell Labs

Visiting Researcher — Mentored by Dr. [Ashok Samraj Thangarajan](#) 

Cambridge, UK

Jun. 2025

- Multilateral Data Collection for Benchmarking Study**
 - Refined methodology for collecting physiological data from multiple body placements during physical activity and exposure to emotion-eliciting VR stimuli.

Social AI CDT & Mobile Systems Lab, University of Glasgow

PhD Candidate — Advised by Prof. [Fahim Kawsar](#)  and Dr. [Tanaya Guha](#) 

Glasgow, UK

Sep. 2023 – Present

- BEATS: Music Dataset with Aligned Physiological Signals in Real-world Contexts**
 - Designed a framework integrating wearable sensing and music-streaming technologies for continuous in-the-wild physiological data collection and real-time music tracking.
 - Developed a systematic approach to select therapeutic music from streaming platforms based on empirical evidence and playlist metadata.

Visual Information Laboratory (VILab), University of Bristol


Master's Project — Supervised by Prof. [Dima Damen](#)  and Dr. [Michael Wray](#) 

Bristol, UK

Jun. 2020 – Sep. 2020

- Proposed a computational framework and benchmark tasks for multi-person action–reaction recognition in social game interactions from egocentric video data.

Centre for Scientific Research and Higher Education at Ensenada (CICESE-UT3)

Research Assistant — Mentored by Dr. [Humberto Espinoza-Perez](#)  and Dr. [Juan Martinez-Miranda](#) 

Nayarit, MX

Dec. 2017 – Dec. 2021

- Developed an interpretable deep-learning method for detecting discriminatory acoustic biomarkers in speech for brain lesion screening.
- Designed and implemented a REST API for multimodal data exchange and developed a web-based interface for video and image annotation with built-in quality-control algorithms.
- Constructed a large-scale image dataset of dog emotions to enable automatic recognition and analysis of canine affective

states.

- Developed a speech-based machine learning approach for automatic assessment of children's personality traits during interactive play sessions.
- Built a regression-based model for estimating children's energy expenditure using Kinect skeletal tracking and physiological data.
- Created an automatic analysis framework for classifying the behavioural context of dog barks by integrating temporal structure and acoustic features.

Research Publications

Journal Articles

- **Gutiérrez-Serafin, B.**, Andreu-Perez, J., Pérez-Espinosa, H., Paulmann, S., & Ding, W. (2023). Toward assessment of human voice biomarkers of brain lesions through explainable deep learning. *Biomedical Signal Processing and Control*, 87, 105457.
- Pérez-Espinosa, H., **Gutiérrez-Serafin, B.**, Martínez-Miranda, J., & Espinosa-Curiel, I. E. (2022). Automatic children's personality assessment from emotional speech. *Expert Systems with Applications*, 187, 115885.

Conference Proceedings

- **Gutiérrez-Serafin, B.**, Kawsar, F., & Guha, T. (2025). Towards Capturing the Therapeutic Effects of Music in Everyday Life: Building the Beats Dataset. In *Companion of the 2025 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp Companion '25)*. 🏆 Best Paper Award
- Hernández-Luquin, F., **Gutiérrez-Serafin, B.**, Escalante, H. J., Pérez-Espinosa, H., Villaseñor-Pineda, L., Reyes-Meza, V. (2022, December). Dog emotion recognition from images in the wild: DEBIw dataset and first results. In *Ninth International Conference on Animal-Computer Interaction*.
- **Gutiérrez-Serafin, B.**, Pérez-Espinosa, H., Espinosa-Curiel, I. E., Figueroa-García, P. N., Pozas-Bogarin, E. E., & Martínez-Miranda, J. (2019). Estimación automática del gasto energético de la actividad física de niños en videojuegos de ejercicio con el sensor Kinect. *Research in Computing Science*, 148(8), 263–277.
- **Gutiérrez-Serafin, B.**, Pérez-Espinosa, H., Martínez-Miranda, J., & Espinosa-Curiel, I. (2019). Classification of Barking Context of Domestic Dog using High-Level Descriptors. *Research in Computing Science*, 148, 23–35.

Honours & Awards

Best Paper Award, ACM UbiComp/ISWC 2025

Received the Best Paper Award on the 8th International Workshop on Computing for Well-Being (WellComp).

Oct. 2025

International Doctoral Studentship, EPSRC/UKRI

Fully funded PhD international studentship at the University of Glasgow (CDT in Socially Intelligent Artificial Agents).

Sep. 2023

Becas Santander Tech — Emerging Technologies, Santander

Scholarship for MIT Professional Education's online programme: *Machine Learning: Leveraging Data Insights*.

Feb. 2021

Graduate International Scholarship, CONACYT/COCYTEN

Fully funded scholarship for MSc Robotics at the University of Bristol.

Sep. 2019

Estudiantes Embajadores Inventioneering — Emerging Technologies, SEP/BANAMEX/CANIETI

Funded summer programme at Florida Institute of Technology for English training (ELS Melbourne) and graduate study guidance.

Jun. 2016

Teaching Experience

COMPSCI4073 Data Fundamentals, University of Glasgow

Fall 2025

Mentoring Experience

Camille Raynaud (Summer Intern at University of Glasgow)

May 2025 – Sep. 2025

Technical Experience

Lead Data Scientist

99minutos — Logistics startup company for e-commerce vendors across Latin America

CDMX, MX

Dec. 2021 – May 2023

- Developed machine learning forecasting systems to predict demand at multiple aggregation levels and time horizons.
- Led a data team of five, overseeing analytics projects and ensuring high-quality data governance across departments.
- Designed data strategies to optimize collection, processing, and analysis pipelines.

Mechanical/Robotics Engineering Intern

Centre for Engineering and Industrial Development (CIDESI)

Nuevo León, MX

Mar. 2017 – Aug. 2017

- Assisted in the commissioning of a robotic deburring cell and contributed to mechanical design projects.
- Expanded post-processing capabilities for offline robotic programming, reducing software acquisition costs.
- Provided training materials and instruction to new interns on Delmia's programming tools.

Courses and Certificates

AIDA AI/ML Cutting Edge Trends Summer School

Aristotle University of Thessaloniki — Attended summer school on cutting-edge trends in artificial intelligence and machine learning.

Jul. 2025

Machine Learning DevOps Engineer

Udacity Nano Degree Programme — Focused on ML model deployment and automation workflows. [\[certificate\]](#) [↗](#)

Apr. 2023

Machine Learning: Leveraging Data Insights

MIT Professional Education — Online course on data-driven decision making and applied machine learning. [\[certificate\]](#) [↗](#)

Apr. 2021

Deep Learning Specialization

DeepLearning.AI, Coursera — Comprehensive specialization on neural network architectures and deep learning. [\[certificate\]](#) [↗](#)

Nov. 2020

Artificial Intelligence Winter School

Centre for Research in Mathematics (CIMAT) — Introductory workshop on practical AI tools sponsored by CONACYT.

Feb. 2019

Artificial Intelligence and Affective Computing Workshop

Centre for Scientific Research and Higher Education at Ensenada (CICESE-UT3) — Workshop on machine learning for emotional speech and affective computing.

May 2018

Skills & Qualifications

Languages: Spanish (native), English (fluent), German (basic), French (basic).

Programming Languages: Python, SQL, JavaScript, C#.

Markup Languages: HTML/CSS, \LaTeX .

Developer Tools: VS Code, Jupyter Notebook, Unity, Git, PostgreSQL, Docker.

Cloud Services: Amazon (EC2, Mturk), GCP (BigQuery, Run, Storage, Scheduler, Logger).

Libraries: TensorFlow/Keras, PyTorch, scikit-learn, Flask, OpenCV, librosa, pandas, NumPy, Matplotlib, NLTK, spaCy.