Daniel Carbonero

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Education

Boston University Boston, MA
PhD Candidate in Biomedical Engineering, Expected: Summer 2025 2019 - Present
Dissertation: Machine Learning for Analysis of State-Dependent Neuronal Network Dynamics in Calcium Recordings
Selected Honors: NIH F31 Fellow, NIH TRB T32: Funded Trainee, Distinguished BME Fellowship

University of Miami Miami, FL
Bachelor of Science in Biomedical Engineering 2015 - 2019
Selected Honors: Cum Laude, University of Miami Senior Design Industry Impact Award

Selected Professional Experiences

Breakout Ventures San Francisco, CA
Diligence Consultant 2025 – Present
- Provided comprehensive due diligence, synthesizing critical technical and market insights for influencing VC investment decisions.

Venture Fellow 2023 – Present
- Managed early deal-flow, leading initial investment calls, evaluating opportunities (scientific merit, market potential, IP, etc.), and drafting reports with strategic recommendations for the investment team.
- One of a limited number of fellows to have sourced deal-flow move into NDA diligence.
- Refined venture skills and proficiency with Breakout investment team, leveraging case studies to deepen understanding of successful biotech startup investing.
- Served as strategic partner in biotech hub of Boston, evaluating emerging technologies, startups, and entrepreneurs to source potential deals, and connect promising future opportunities with Breakout's resources.

Office of Technology Development, Boston University Boston, MA
Student Analyst 2023 – Present
- Carried out comprehensive analyses of academic technologies to assess commercial viability and facilitate commercialization of promising ones.
- Conducted in-depth market landscape research, outlining where a technology might fit within the commercialization pipeline and the industry environment.

Kramer Neurodata & Modeling Group, Boston University Boston, MA
Graduate Research Fellow 2020 – Present
- Applied transfer learning to implement and fine-tune pre-trained Long Short-Term Memory (LSTM) Deep Neural Networks (DNNs) for automatic spike ripple detection in human epilepsy voltage recordings.

Neuronal Dynamics Laboratory (NDL), Boston University Boston, MA
Graduate Research Fellow 2020 – Present
- Developed and adapted linear and non-linear dimensionality reduction (DR) machine learning methods for unsupervised neuronal network analyses recorded with calcium imaging under unique neural contexts.
- Collaborated with experimental lab scientists to iteratively adapt and apply machine learning analysis methods to their collected data to answer groundbreaking, novel, and complex neurological questions.

Bio-Vitro Inc Miami, FL
Associate Engineer 2019
- Optimized design of robotic fluid handling platform for unattended, automated, organ-on-chip experiments for production and selling to collaborating labs to make organs-on-chips more technically accessible.

Selected Leadership Experience

Nucleate, Boston Chapter 2022 –2024
Director of Communications, Vice President of Communications
- Directed the Communications team of Boston Nucleate, a trainee-led organization facilitating venture creation of life science spinouts.
- Implemented entirely novel pipeline to overhaul and standardize communications from Boston chapter to target audiences.
- Served as liaison between Nucleate headquarters, local Nucleate program participants, and the Boston leadership team, solving logistical issues as they presented, or delegating them to the appropriate personnel.

Selected Skills

Languages: Native in Spanish, fluent in English, **Certifications**: Six Sigma Green Belt
Programming: Highly Proficient: Python, MATLAB Comfortable with: HTML, CSS, R Familiar with: C, C++, Java
Machine Learning and Data Analysis: Linear and Non-Linear Dimensionality Reduction, Clustering, Unsupervised/Semi-Supervised/Supervised Learning, Deep Learning (Artificial Neural-Networks), Time Series Analysis, Image Analysis