Daniel Carbonero

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Education

Boston University Boston, MA
PhD Candidate in Biomedical Engineering, Expected: Summer 2024 2019 - Present
- *Dissertation*: Machine Learning for Analysis of State-Dependent Neuronal Network Dynamics in Calcium Recordings
- *GPA*: 3.92/4.00, *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
- *GPA*: 3.80/4.00, *Selected Honors*: Cum Laude, University of Miami Senior Design Industry Impact Award

Selected Professional Experiences

Breakout Ventures San Francisco, CA
Venture Fellow March 2023 - Present
- Refined investment skills and proficiency in navigating the venture capital landscape with Breakout investment team, leveraging case studies to deepen understanding of successful startup investing.
- Conducted preliminary assessments and initial diligence of various start-up companies, evaluating their scientific merits and market potential within the biotech landscape, to determine their potential for funding.
- Served as strategic partner in biotech hub of Boston, evaluating emerging technologies, startups, and entrepreneurs to connect promising future ventures with Breakout's resources.

Office of Technology Development, Boston University Boston, MA
Student Analyst, Supervisor: Frances Forrester, PhD November 2023 – Present
- Carried out comprehensive analyses of academic technologies to assess commercial viability, and subsequently facilitate commercialization of promising ones.
- Conducted market and landscape research, outlining where a technology fit within the commercialization pipeline and the industry environment.
- Drafted invention assessments, detailing a foundational understanding of a technology, its field, and subsequent commercialization potential.

Neuronal Dynamics Laboratory (NDL), Boston University Boston, MA
Graduate Research Fellow, Advisor: John White, PhD March 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, Supervisor: Siddarth Rawal, MD May 2019 - August 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.

Neurological Prosthesis Research Laboratory, Duke University Durham, NC
Selected for Research Experience for Undergraduates, Advisor: Warren Grill, PhD May 2018 - August 2018
- Modified and automated a computational model of Parkinson's Disease (PD) to simulate networks of neurons with experimentally recorded inputs, assessing effectiveness of Deep Brain Stimulation as a therapeutic for PD.

Selected Leadership Experience

Nucleate, Boston Chapter November 2022 – May 2024
Director of Communications, Vice President of Communications
- Directed all communications and managed the Communications team of the Boston chapter of Nucleate, a student-led organization aiming to facilitate venture creation of pioneering life science companies.
- Overhauled and implemented entirely novel pipeline to standardize communications from Boston chapter leadership 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