Héctor Carrión | Generative AI Researcher, 5+ years of experience | hectorcarrion.com

Education

University of California, Santa Cruz — Santa Cruz, CA
Ph.D. | Computer Science and Engineering | 3.92 GPA — Present

University of Puerto Rico, Rio Piedras — San Juan, PR
B.Sc. | Computer Science | 3.75 GPA — Grad. 2021

University of Naples, Federico II — Naples, Italy
Apple Developer Academy, Software Engineering & Design — Grad. 2019

Experience

Tera AI — San Francisco, CA
Founding Lead Research Scientist | Generative AI, Spatial Reasoning & Autonomy — June 2024 – Present

- Designed and executed research agenda, aligning ambitious experiments with fast iteration timelines, budgets and compute. Research highlight: single transformer architecture capable of novel multimodal geospatial autonomy

Google Research — Mountain View, CA
Student Researcher (PhD) | Computer Vision, Large Language Models — June 2023 – September 2023

- Established foundation models for unified multi-modal video & image training, unlocking significantly higher performance (↑ >25%) compared to previously deployed single-modality encoders

Google X — Mountain View, CA
AI Resident (PhD) | Simulation, Edge Perception, Aerial Imaging — June 2021 – September 2022

- Exceeded perf. expectations for aerial & ground perception systems under novel problem domains, granted patents

University of California, Santa Cruz — Santa Cruz, CA
Graduate Student Researcher | Medical AI Research, Generative AI — June 2020 – Present

- Achieved SOTA performance (↑18%) via generative methods (e.g. Diffusion) for image segmentation, classification and analysis in label-constrained scenarios (< 100 samples); published multiple first-author papers

Publications & Conference Presentations

- **H. Carrión**, et al. TARDIS STRIDE: A Spatio-Temporal Road Image Dataset and World Model for Autonomy, Preprint under review, 2025
- **H. Carrión**, et al. cgDDI: Controllable Generation of Diverse Dermatological Imagery for Fair and Efficient Malignancy Classification, Preprint under review, 2025 (contact for manuscript)
- **H. Carrión**, et al. FEDD - Fair, Efficient, and Diverse Diffusion-based Lesion Segmentation and Malignancy Classification, MICCAI 2023
- **H. Carrión**, et al. Patch HealNet: Predicting Wound Stage from In Vivo Imaging, DARPA BETR Review 2023
- **H. Carrión**, et al. HealNet - Self-Supervised Acute Wound Heal-Stage Classification, MICCAI MLMI 2022
- **H. Carrión**, et al. Automatic Wound Detection and Size Estimation using Deep Learning Algorithms, PLOS Computational Biology 2022
- J. Chan, **H. Carrión**, et al. Honeybee Re-identification in Video: New Datasets and Impact of Self-supervision, VISAPP 2022
- H. Yang, M. Bagood, **H. Carrión**, et al. Photographs of 15-day wound closure progress in C57BL/6J mice, Data Dryad 2021
- **H. Carrión**, et al. Towards Classification of Wound Stages Using Deep Learning Algorithms, SACNAS 2020

Skills, Awards & Advisorships

Technical: Python | C++ | Swift | PyTorch | TensorFlow | Keras | JAX | Numpy | Natural Language Processing | SW Eng
Soft: Strong communicator, presenter, collaborator, diligent, organized **Languages:** English (native) | Spanish (native)
Awards: MICCAI STAR | SIDIM Outstanding Research Presentation | NIH BD2K | Google Patent Award
Advisorships: Technical Advisor @ visia.ai (2021-Present) | ML Tutor (2020-2022) **Ethics:** Real-world positive impact