JUAN D. LUQUE CHANG

College Park, MD
301.821.1091

GitHub and LinkedIn: jdluque
jluque@umd.edu
https://jdluque.github.io

Education

- **University of Maryland, College Park (UMD)** — College Park, MD
  Computer Science M.S.; GPA: 3.9/4.0 — *Graduating December 2023*
- **University of Maryland Baltimore County (UMBC)** — Baltimore, MD
  Mathematics B.S.; Computer Science minor; GPA: 3.9/4.0; Sherman Scholar — *May 2019*

Programming competencies

Core: Python, Typescript, C++, Java, MySQL, Flutter, GraphQL

Libraries: pytorch, torch_geometric, pandas, scikit-learn, gurobi, matplotlib seaborn, NetworkX

Relevant experience

- **Data Science for Social Good (DSSG) at Carnegie Mellon Univerity** — Pittsburgh, PA
  DSSG Fellow – repository: `https://github.com/dssg/dojo_mh_public` — *May 2022 - August 2022*
  - Implemented a scalable *Machine Learning pipeline* using Python, SQL, sci-kit learn and bash to predict behavioral health crises in Kansas
  - Presented a 3 minute talk at DataFest 2022
- **What Are Those!? App** — College Park, MD
  Software Engineer — *September 2023 - Present*
  - Utilized Flutter and AWS to build a search engine for WAT, a shoe-image recognition app for platform for sneaker and street-fashion communities.
- **UMD Computer Science Department** — College Park, MD
  Research and Teaching Assistant — *August 2021 - Present*
  - **Publications:** Group Fairness in Set Packing (Appearing in IJCAI-23); Dependent Rounding for Barter with Shared Item Valuations (Ongoing work); Motif Counting for Graph Neural Networks (Ongoing work)
  - TA for Machine Learning, Discrete Structures (x3) and Intro to Programming Languages I and II

Projects

- **Obsidian Plugins (written in Typescript)** — Created 2021
  https://obsidian.md is a free markdown-based note making and editing software
  - **Share Connected Components**: This plugin allows for sharing individual Obsidian notes while recursively sharing all linked notes thus remedying dead links when sharing notes.
  - **Next Link**: implements re-bindable shortcuts for jumping the cursor back and forth between note hyperlinks.
- **Machine Learning Projects on MNIST, CIFAR10, and other datasets** — Completed December 2020
  Projects implemented as part of CMSC828C: Statistical Pattern Recognition
  - Implemented DNNs, CNNs, transfer learning (on VGG16), PCA, MDA, spectral clustering, kSVM, and more

Other skills and experience

Other experiences: Google Computer Science Research Mentorship, Mentee 2021; Learning Assistant, Multivariate Calculus at Montgomery College 2017; Learning Assistant, Physics I, UMBC 2018-2019

Other competencies: Android Studio, LaTeX, MATLAB, Github Projects, Trello, Linux (Ubuntu, Debian)

Coursework: Advanced Machine Learning, Algorithmic Lower Bounds, Algorithm Design and Analysis,Advanced Nonlinear Optimization, Quantum Information Processing, Real Analysis, Complex Analysis, Measure Theory, Computational Methods, Computational Geometry

Other skills/hobbies: English (native), Spanish (native), French (elementary), MC Board Hoarders (Vice-president); 1000 lb club; bouldering

Volunteering: BlairHacks 2022 Python Workshop Host, Baltimore Polytechnic Institute Volunteer Teaching Assistant, Lakeland Elementary and Middle School Volunteer Math Coach and Teaching Assistant, George B. Thomas Learning Academy Volunteer Tutor

Awards: Freeman A. Hrabowski President's Scholarship; Sherman Scholar Scholarship; Kennth-Wantling Endowed Scholarship; Koski-Finnerty Math/Sciences Scholarship; General Honors Scholarship; Transfer Student Alliance