JUAN D. LUQUE

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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 Languages and Tools

Programming langugages and tools: Python (pytorch, torch_geometric, pandas, scikit-learn, gurobi, matplotlib, seaborn, NetworkX), git, bash, Vim, Typescript, Android Studio, , LaTeX, C++, C, (Postgre)SQL, Typescript, Java, MATLAB, Github Projects, Trello, Linux (Ubuntu, Debian, Arch)

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* to predict behavioral health crises in Kansas
  - Presented a 3 minute talk at DataFest 2022
- **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 II
- **Google Computer Science Research Mentorship Program** — Virtual
  Google CSRMP Mentee — *January 2021 - May 2021*
- **UMBC Physics Department** — Baltimore, MD
  Learning Assistant, Physics I — *January 2018 - January 2019*
- **Montgomery College** — Rockville, MD
  Learning Assistant, Multivariate Calculus — *February 2017 - May 2017*

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**
  Projects implemented as part of CMSC828C: Statistical Pattern Recognition — *Completed December 2020*
  - Implemented DNNs, CNNs, transfer learning (fine tuned VGG16), PCA, MDA, spectral clustering, kSVM, KNN, Gaussian Bayes'

Other Skills and Experience

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: Spanish (both fluent, reading and writing); MC Board Hoarders (Vice-president); 1000 lb club; bouldering; swimming

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