Liev Birman
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Github: https://github.com/lievbirman/Work_Examples **(files from projects mentioned here)**

Qualifications

- 2+ years of python scripting with strong foundation in object-oriented programming.
- Previous NASA internship in remote sensing data analysis (OCO-2 @ JPL).
- Familiarity with classical and deep-learning based segmentation.
- Great technical presentation skills, and Basic 3 A2 fluency in Spanish and fluent Russian

Education

BS University of Wisconsin- Madison, **Physics,** GPA **3.3** **May 2017**

Relevant Experience

Project: Cell Culture Platform Development, University of Miami **Sept 2018-Present**

- Developed control system, graphical user interface, and supporting modules in Python using a Model-View-Control design structure with a fully object-oriented approach.
- Designed casing and sample collection system in SolidWorks as well as the power electronics in Eagle CAD, and manufactured parts using a CNC laser-cutter.

Project: Robotics Perception, Udacity.com **May 2018**

- Set up a SegNET deep neural network for pixel-by-pixel image classification using the Keras Python library to solve a robotics perception task.
- Wrote scripts to segment images and automatically classify pixels based on statistical ranges and performed various filtering and calibration exercises.

Project: CO2 Plume Detection, Orbiting Carbon Observatory 2, NASA-JPL **Summer 2016**

- Developed a suite of functions to geolocate Carbon Dioxide plumes in OCO-2 data, calculate the recurrence frequency of said plumes, and map results in Python
- Worked with KML and h5 file formats.

Sensor Experience

- Used photodiode and oscilloscope to measure light-intensities and classify performance of a precision optical shutter. (Work done at Mark Saffman's Lab UW-Madison)
- Worked with thermocouples to measure thermal noise, electromagnets to perform magnetic resonance imaging, and laser with polarizers to conduct a classic quantum mechanical experiment as part of Advanced Physics Laboratory course

Teaching Experience

- Worked as a Physics teaching assistant. Prepared weekly problem sets and guided students through problems. Evaluated well.
- STEM Tutor in Calculus, Chemistry, and Physics. Worked one-on-one with any students who came into the STEM lab for help with assignments and concepts

Programming Languages/Software: Python, Mathematica, Java, SolidWorks, Eagle, Jupyter Notebook

Hobbies: Hiking, Backpacking, Bike Touring, Nature Macro-Photography, Reading, Teaching, Chess.