# Liev Birman

16546 NE 26 AVE #3G North Miami Beach, FL | (786) 859-1571 | birmanliev@gmail.com

**Github**: https://github.com/lievbirman/Work_Examples


## Qualifications

- 2+ years of experience writing python scripts with strong foundation in object-oriented programming
- Previous NASA internship in climate science remote sensing data analysis
- Lab and coursework with physical sensors and error analysis
- Familiarity with classical and deep-learning based image segmentation

## Education

**BS** University of Wisconsin- Madison, **Physics**, GPA 3.3/4.0 **May 2017**

**AA** Miami-Dade College, **Natural Sciences**, Major GPA 3.9/4.0 **May 2015**

## Relevant Experience

**Engineering Technician – University of Miami, Agarwal Lab** **2018/19 Academic Year**

**Project**: Cell Culture Platform Software and Hardware Development

- 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 laser-cutter
- Advocated for and implemented sustainable code practices and redundancy in electronics to promote system survivability

**Research Assistant – University of Wisconsin, Madison, Saffman Lab** **2016/17 Academic Year**

- Constructed and tested experimental optical shutter for use in table-top quantum optics experiments
- Serviced and repaired several lab-built circuits for optical system control
- Maintained and cleaned lab optics and facilities

**Earth Science Summer Intern – Jet Propulsion Lab, NASA** **Summer 2015**

Project: Plume Detection with Orbiting Carbon Observatory 2 (OCO2)

- 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 format

**Physics Teaching Assistant – Miami-Dade College** **2014/15 Academic Year**

- Prepared weekly problem sets and guided students through problems. Evaluated well
- Reported to and strategized with physics professor Dr. Gibert

## Highlighted Coursework

**Course: Advanced Physics Lab, University of Wisconsin-Madison**

- Measured thermal noise, magnetic resonance response, light polarization, and optical quantum entanglement

**Course: Robotic Perception, Udacity.com**

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

## Coding Languages and Software

Python, Mathematica, Java, SolidWorks, Eagle, Jupyter Notebook

## Languages

Native English, Basic 3 A2 fluency in Spanish, Native Spoken Russian