

# Jacob Lawson

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## EDUCATION

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**Cornell University**, College of Engineering, Ithaca, NY **May 2023**  
Master of Engineering, Engineering Physics

**Cornell University**, College of Engineering, Ithaca, NY **May 2022**  
Bachelor of Science, Engineering Physics  
GPA: 3.483; Dean's List, Fall 2018, Spring 2019, Fall 2019, Fall 2020, Spring 2021, Fall 2021

**Relevant Courses:** Intermediate Mathematical Physics; Classical Electrodynamics; Introduction to Analysis (Math); Data Structures and Functional Programming.

## RESEARCH EXPERIENCE

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**Laboratory of Plasma Studies**, Cornell University, *Undergraduate Researcher* **Oct. 2018-Present**

- Collected experimental data of gas densities using planar laser induced fluorescence (PLIF) in a vacuum chamber to determine the reproducibility of a gas puffer valve
- Developed a more accurate calibration method for the gas density data collected
- Used semantic segmentation (machine learning) to accurately process fringe tracing of interferometer patterns

## PROFESSIONAL EXPERIENCE

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**Cornell University School of Applied and Engineering Physics**, Ithaca NY, *TA/Grader* **Sept 2022-Dec 2022**

- Held office hours, created homework solutions, and graded homework

**Civilization 5 LekMod Development Team**, C++ *Code Developer* **Aug 2022-Present**

- LekMod is a small open-source group that manages a game balancing mod for Civilization 5 (video game)
- Edited and compiled C++ Civilization 5 source code to implement regular game balance changes

**Cornell University Athletic Department**, Ithaca NY, *Statistician* **Oct 2018-March 2022**

## LEADERSHIP EXPERIENCE

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**Cornell University Varsity Swim Team**, Cornell University, *Athlete* **2018-May 2022**

- Awarded Men's Swimming Hardest Worker Award for the 2018-2019 and 2021-2022 seasons
- Qualifying member of the Ivy League Championships team every year
- Consistent member of the in-season travel team

**Big Red Athletics Tutor** **Sept 2020-May 2021**

**Big Red Leadership Institute**, Ithaca NY, *Member* **2018-May 2022**

- Leadership program designed for student athletes run by coaches on how to lead effectively

## CAMPUS INVOLVEMENT

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**Society of Physics Students**, Cornell University, *Member* **Sep. 2018-May 2022**

**Applied & Engineering Physics Society**, Cornell University, *Member* **Aug. 2020-May 2022**

**Applied & Engineering Physics Mentorship Program**, Cornell University, *Mentor* **Sep. 2020-May 2022**

## ADDITIONAL EXPERIENCE

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**Roanoke Valley Swimming Inc.**, Roanoke VA, *Volunteer* **2014-2018**

**HopeTree Family Services**, Salem VA, *Glow for Hope 5k and 2k Volunteer* **2014-2017**

## SPECIALIZED SKILLS

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**Programs:** Python, PyTorch, OCaml, MATLAB, Java, some C++ experience