Rawand Azîz

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EDUCATION

Princeton University   **Princeton, New Jersey**
Bachelor of Arts, Computer Science   **2021 – Present**
- President of Princeton Kurdish Society   **2021 – Present**

EXPERIENCE

Software Engineer   **September 2021 – May 2025**
Princeton University Special Collections   *Princeton, NJ*
- Catalogued record no. of coins into Princeton's online coin database via optimization.
- Scraped 50,000+ coins from external databases in 6 minutes, an 8x speedup.
- Cleaned & transformed the coin data to add to Princeton's FLAME database; regularly met w/ administration.
- Head of FLAME's optical character recognition (OCR) model project, which seeks to extract tabular coin data from thousands of old, potentially hand-written reports; I created the core model & guided new hires before graduating.

International Policy Associate   **September 2022 – Present**
Liechtenstein Institute on Self-Determination   *Princeton, NJ*
- Research Kurdish human rights; scraped & analyzed textual data from 8,000+ articles on foreign government-supported news sites to provide evidence for my research. In particular, I looked at certain words' frequencies in articles on various topics, such as how often the word "terror" was included in articles about Kurds.
- Leading a team of four researchers in creating the first exhaustive Kurdish Crisis Compendium over the upcoming year.
- Presented findings to the monarch and other members of the royal family of Liechtenstein as chair of the research committee, as well as to the deputy secretary-general of NATO. Presented to other audiences in Vienna, Brussels, Triesenberg, and Washington D.C.

Engineer   **September 2023 – May 2024**
Princeton Rocketry   *Princeton, NJ*
- Worked on NASA's ICE-DRAGON program to create a balloon which can gather atmospheric data in Antarctica and easily be retrieved.
- Wrote USB driver code in C++ to allow for the balloon to read local flight data using Teensy 4.1 to avoid aerial collisions during test flights. I also worked on making the onboard camera transmit data from long distances.

RESEARCH & PROJECTS

Kurdish Keyboard | *JavaScript*   **Spring 2023**
- Created the first program that allows Windows users to type in Kurdish, which was otherwise only supported on macOS.
- Implemented a dynamic typing approach which users appreciate, given the peculiar nature of the Kurdish alphabet.
- 700+ downloads and 10M+ Kurdish letters typed.

An Overview of Bayesian Acquisition Functions | *Junior Paper*   **Spring 2024**
- Conducted research under Professor Ryan Adams on machine learning which aimed to optimize hyperparameter tuning in reinforcement learning settings via Bayesian optimization.
- Experimented with various Bayesian acquisition functions in reinforcement learning environments using Python and OpenAI's Gym environments, alongside my own environment.
- I found that certain acquisition functions resulted in the model converging to better parameters faster when certain conditions relating to the environment were met, which I analyzed further to provide some insight into the mechanisms of each acquisition function which make them unique.

Estimating Displacement via Nighttime Satellite Imagery | *Thesis*   **Spring 2025**
- Under Dr. Ruth Fong, I built various machine learning models that can estimate the number of people who fled from their homes due to a battle or natural disaster in the context of the Syrian Civil War.
- The model accomplishes this using nothing more than nighttime satellite imagery provided by NASA, thus providing humanitarian organizations with actionable insights.
- Compared image regression and linear regression with a wide array of features, finally resulting in a model with a correlation coefficient of 0.68—a significant improvement over previous papers which achieved a value of 0.55.

LANGUAGES

Python, C/C++, Java, JavaScript