

# BERKAY BENLI

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## EDUCATION

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**Bachelor of Science (Honours) in Computing Science**, University of Alberta (expected Winter 2027)

GPA: 3.40/4.00

Relevant Courses

- **Data Structures** and **Algorithms**, Introductory **Programming**, Calculus I, Calculus II, Linear Algebra

## EXPERIENCE

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**UASTarr Alberta Rocket Research**

Jan 2024 - June 2024

Software Engineer

*Edmonton, AB*

- Collaborated with team members to **design and develop the UASTARR website**, addressing bugs, implementing new features, and **enhancing overall functionality** to improve user experience.
- Contributed to the **development of the rocket tracker software**, **enhancing tracking accuracy by 12%** through the implementation of more **efficient tracking algorithms** such as **Kalman Filter Algorithm**, and **optimizing code efficiency**

## PROJECTS

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**Sample-Searcher** [App Link](#) — [Backend Code](#) — [Frontend Code](#) (React, NodeJS, Express, MySQL, Python)

- Developed **full-stack** music application using React and NodeJS/Express with MySQL database, integrating **Python web-scraped data** into a **MySQL database of over 2000 songs**.
- Implemented **user authentication** with cookies and bcrypt-secured Passwords, and enabled song viewing, playback, downloading, and favoriting, with **favorites saved in the database**.
- Created **RESTful API endpoints** for user management and song retrieval. Designed a **responsive UI** with **dynamic song display** and pagination.

**Beat-Sequencer** — [App Link](#) — [Source Code](#)

(Python, Pygame)

- Designed a Beat Sequencer using **Python** and **Pygame** with a **graphical user interface** with interactive buttons and sliders for beat creation, tempo adjustment, and dynamic grid of pads for composing beats.
- Implemented **sound mapping** and playback, allowing users to toggle pad states, create, play, and clear beats in real-time, with **adjustable difficulty modes**.
- Ensured a responsive user experience through precise mouse click detection and event handling.

## EXTRA-CURRICULAR ACTIVITIES

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- Competed in UAPC (**University of Alberta coding competition**) multiple times, the Beaver Computing Challenge (Mathematics Contest), and the **University of Waterloo Gauss Contest**, earning an **Honours with Distinction award**.
- Awarded **3rd place** in MecSimCalc **hackathon LIVE** 2023

## SKILLS

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**Computer Skills and Languages:** Python, C++, MySQL, JavaScript, React, NodeJS, HTML, CSS, Latex, Microsoft Office, Google Suite. Fluent in English and Turkish