Benedek Kaibas

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EDUCATION

Allegheny College, Meadville, PA

Master of Science, Computer Science, May 2027

Selected Coursework: Internet of Things (Fall 2025), Deep Learning (Spring 2025), Interdisciplinary Research(Spring 2025), Web Design and Development (Spring 2025), Algorithm Design and Analysis (Spring 2024), Data Structures (Fall 2023)

Bachelor of Computer Science (Minor: M.Sc. Economics), May 2027

SKILLS

Programming/Scripting Languages: (Proficient)**Python**, **C++**;(Familiar)C,SQL,Javascript,MATLAB,R

Frameworks and tools: Pytorch, Django, Tinygrad, React, Git

LEADERSHIP/ATHLETIC SKILLS

I am the captain of a nationally ranked men's tennis team, leading and representing the team at a high level of competition. I was honored as the **PAC Conference Freshman of the Year** and selected to the **All-Conference First Team** in both singles and doubles. In addition to my role as a player, I manage the team's social media presence to enhance engagement and visibility. I also maintain the **SwingVision** tool, an **AI-based** tennis game recording system, ensuring accurate match analysis and performance tracking.

EXPERIENCE

Software Engineering Intern

Allegheny College, Meadville, PA, January - May, 2024

- Developed a high-school coding education website titled Code With Chompers in a team environment.
- Designed the site using the Quarto Web Tool with embedded **HTML**, **CSS**, and **JavaScript**.
- Segmented the site to include a CI/CD structure, with a main web repository that connects to several private git-submodules for each group of lessons.

Research Intern

Allegheny College, Meadville, PA, September 2024 - Present, 2025

- Collaborating with a team to design and develop an aquatic tethered ROV equipped with sensors to collect diagnostic data from local bodies of water using **C++** programming language.
- Implementing a **deep learning application** for real-time identification of aquatic plants using onboard vision systems.
- Applying deep learning models to analyze collected data and predict water health based on environmental statistics.

Research Student

Allegheny College, Meadville, PA, July - December, 2023

- Developed an application (in **Python**) to use a **tree-based learning algorithm** to model the deadline hit and miss patterns of periodic real-time tasks. The algorithm used formal verification techniques to generate a regular language-based guarantee to predict future deadline hits and misses.

Freelancer Programmer

Self-Employed, Budapest, Hungary, Summer of 2023 and 2024

- I have contributed to various projects on Upwork, developing small to medium-sized applications. Through these projects, I gained hands-on experience in **C++ and Python**, applying my skills to real-world development tasks. Working independently, I enhanced my problem-solving abilities, improved my coding proficiency, and gained valuable experience in managing and delivering projects efficiently.

PROJECTS

Pointers Benchmarking in C/C++/Rust

Allegheny College, Spring 2025

- Conducting research on **pointer safety and performance benchmarking** in **C, C++, Checked C, and Rust**, focusing on implementing and analyzing **normal and fat pointers**. Utilizing **microbenchmarking** to compare execution speed in single-threaded and multi-threaded (OMP) environments, evaluating the trade-offs between security and performance