

# Esad Kaya

Ottawa, ON

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## Education

**Honours Bachelor of Science in Computer Science (Co-op)**

*Sept 2022 – Dec 2026*

*University of Ottawa, Ottawa, ON*

### Awards:

- Winner of Hack The Hill II: Ross Video FPGA Challenge (2024)
- Admission Scholarship by University of Ottawa (90–95% admission average)
- 1st Place in Region by University of British Columbia Michael Smith Physics Olympics (2021)

**Relevant Coursework** (selected): Data Structures & Algorithms, Design and Analysis of Algorithms, Programming Paradigms, Databases, Advanced C++ Programming, Computer Architecture, Software Engineering.

## Technical Skills

- **Languages:** Python, Java, JavaScript, C/C++, PHP, Lisp (Racket), DAX, SQL, Bash, Rust
- **Libraries / Tools:** NumPy, Pandas, Matplotlib, OpenCV, PyQt, Firebase, PostgreSQL, Power BI, BeautifulSoup, Selenium, Playwright, Scikit-Learn, TensorFlow
- **Web Development:** Flask, HTML/CSS, XML, JavaScript (ES6), React
- **Data Science & AI:** NLP, Machine Learning, HMMs, Time-Series Analysis, Data Visualization, Web Scraping, Large-Scale Data Processing
- **DevOps & Parallelization:** `concurrent.futures`, Threading, Multiprocessing, API Integrations, Cloud Services (Gemini API, Firebase), Git, GitHub
- **Operating Systems:** Windows, Linux (Ubuntu/Debian), MacOS
- **Embedded Systems & Hardware:** Arduino, Intel Quartus, SolidWorks, KiCAD
- **Other:** OCR, Financial Data Analysis, Agile Development, UML Diagrams

## Experience

**Software Developer Intern**

*(Jan 2025 – April 2025)*

*Communications Research Center, Canada*

- Developed cross-platform GUI research tools using **PyQt**, enhancing researcher workflow efficiency.
- Generated data visualizations for technical reports using **Matplotlib**, improving clarity of research findings.
- Optimized data processing and visualization pipelines using Python **parallelization** techniques, reducing execution time.
- Implemented automatic script generation for quick setup, reducing setup time by **98%** and startup time by **95%**.

**Student Junior Business Analyst**

*May 2024 – Aug 2024*

*HR – Infrastructure Canada, Ottawa, ON*

- Prototyped, designed, and built interactive dashboards using **Power BI** and **DAX** for senior directors.
- Ensured data consistency and accuracy by performing cleaning and transformation on HR datasets using **Power Query**.
- Streamlined data pipelines by standardizing input formats and implementing robust handling for missing data, improving report generation speed.
- Delivered data-driven insights through reports and dashboards, supporting senior management's operational decision-making.

**Technical Support Officer**

*Jan 2020 – Present*

*Raindrop Janitorial Services Corp., Ottawa, ON*

- Resolved hardware, software, and network issues, ensuring secure and uninterrupted business operations for 50+ users.
- Efficiently executed payroll with **QuickBooks**, handling 50+ employee paychecks accurately and on time.
- Manipulated data models with **DAX**, reducing wait times for urgent financial reports by 2 weeks.

# Projects

## AutoTrader Web Scraping Application

*GitHub: Integer-Conversion-Error/AutoScraper*

- Developed a Python/Flask web app to automate AutoTrader.ca vehicle searches with advanced filtering.
- Implemented **concurrent scraping** ('concurrent.futures') and **persistent storage** of search criteria/results using **Firestore**.
- Integrated **AI analysis** for listing reliability, pricing insights, and negotiation points via Google Custom Search API.
- **\*\*Rust Rewrite (WIP):\*\*** Re-architecting backend with **Rust/Axum/Tokio/Reqwest/Serde** for enhanced **performance, type safety, and concurrency**.

## AI Budget Agent Web App

*GitHub: Integer-Conversion-Error/Budg-It*

- Developed an **AI-driven** budgeting tool using **Gemini 2.0** and Python to assist users in managing financial scenarios.
- Implemented **receipt parsing** with **OCR** to automatically extract and categorize expenses.
- Designed an intuitive web interface for seamless user interaction and financial tracking.
- Integrated data visualization to provide users with clear insights into their spending habits.

## Hugging-Stocks: Stock Market Analysis Tools

*GitHub: Integer-Conversion-Error/Hugging-Stocks*

- Developed Python tools applying **ML** for stock market insights, exploring sentiment analysis, time series modeling, and external data integration.
- Implemented **sentiment analysis** (NLP on news/GDELT) and **Hidden Markov Models (HMMs)** for **time series analysis** to identify market states/patterns.
- Analyzed stock analyst price predictions to identify trends and assess potential correlations with market movements.
- Demonstrated skills in Python, Machine Learning (ML), Natural Language Processing (NLP), Time Series Analysis, and handling diverse financial data sources.

## Fitness Club Android App

- Built using Java, XML, Android Studio, and Firebase
- Managed user data and integrated real-time database visualization

## Hotel Booking Website

- Utilized Python (Flask), JavaScript, HTML/CSS to create a seamless user interface
- Structured database schemas with SQL & PostgreSQL, leveraging indexes & views

## A/K-NN Algorithm Program

- Implemented K-Nearest Neighbors in Java for pattern recognition and efficiency
- Practiced robust algorithmic design and data preprocessing

# Extracurricular Activities

## Hardware/Software/Business Team

*Aug 2019 – Aug 2022*

### *MERGE 2706 Robotics*

- Wrote and tested robot movement code in Java/Python for FIRST Robotics Competition
- Organized sponsorships and safe meeting areas during the COVID lockdown
- Fabricated precise parts using machining tools, detecting and fixing issues early

# Transferable & Soft Skills

- Analytical problem solver and quick learner
- Excellent communication & teamwork; strong work ethic
- Resourceful, self-taught in new technologies
- Time management, attention to detail, and adaptability
- Languages: Native English and Turkish; intermediate French; elementary Russian