

EKREM ARMAGAN KARAKAS

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Available from May 2025 to January 2026

EDUCATION & ACADEMIC INFORMATION

Northeastern University Honors Program | B.S in Computer Science – Artificial Intelligence May 2026

- **Achievements:** Honors Scholarship | Dean's List | GPA: 3.3/4 | Spring 2023 DKE Athletic Chair
- **Relevant Coursework:** Machine Learning and Data Mining, Algorithms & Data Structures, Theory of Computation, Object Oriented Programming, Computer Systems, Foundations of Data Science, Foundations of Cybersecurity, Introduction to Digital Design and Computer Architecture, Discrete Structures, Mathematics of Data Models

TECHNICAL SKILLS

- **Languages:** Python, R, Java, JavaScript/TypeScript, HTML/CSS, C, SQL, PHP
- **ML Libraries:** Scikit-learn, Pandas, NumPy, Matplotlib/Seaborn
- **Frameworks / Tools / Databases:** NodeJS, ExpressJS, ReactJS, React Native, Jest, Django, AWS, Github Actions, Docker, Git, Stripe API, LLM API's, Arduino, Raspberry-PI, MongoDB, MySQL, MariaDB
- **Systems:** Linux, Windows, MacOS

PROJECTS

- i3ctl – Linux CLI Utility** (*Python, Linux, CLI, PyQt6*) Jan 2025 - Present
- Developed a Python-based CLI tool to automate 13+ i3-Linux desktop workflows (network, workspace, power etc).
 - Engineered a modular architecture with dynamic dependency detection (PulseAudio, Blueman) and GUI using PyQt6.
- OktetAI – oktet.ai** (*JavaScript, NodeJS, MongoDB, EJS, AWS*) Apr 2024 - Present
- Developed a platform enabling seamless interaction with multiple advanced AI models (OpenAI, Claude, Gemini, Llama) simultaneously while also allowing users to take notes and paraphrase their work.
 - Published LLMRest, a modular AI client, as an NPM package, to manage integrations with multiple AI services, ensuring secure API interactions through input validation and content moderation.
- Regression Models from Scratch** (*Python, Machine Learning*) Jan 2025 - Feb 2025
- Built regression models (Linear, Ridge, Lasso, Elastic Net, Polynomial, Logistic) from scratch, optimizing gradient descent and closed-form solutions, with custom evaluation metrics and visualization tools.
- Movie Success Prediction** (*Python, Machine Learning*) Nov 2024 - Dec 2024
- Trained an ensemble model (Random Forest & Gradient Boosting) with 94.86% accuracy to predict box office success.
 - Engineered profit/success metrics and balanced classes using SMOTE; visualized insights via EDA.
- UK Soccer Player Valuation Analysis** (*Python, Machine Learning*) Sept 2023 - Dec 2023
- Built a Random Forest regression model (140 estimators) to predict player valuations ($R^2 = 0.746$), outperforming KNN/SVM, with an end-to-end pipeline for data collection, cleansing, and feature engineering.
- Reversi Game Development** (*Java, Unit Testing, MVC Architecture*) Oct 2023 - Dec 2023
- Utilized Java and MVC for game development, algorithm design, AI strategy implementation, and unit testing.
 - Engineered a hexagonal-grid based Reversi game model in Java, adhering to standard two-player rules.
- “The Future is Yours” Book Project** (*Author*) Feb 2019 - Jan 2022
- Interviewed 11 industry leaders, wrote, and published a book.
 - Used book sales revenue to donate medical devices and tablets; received media coverage, including in Fox and Hurriyet.
- The Safe Election Room Project** (*Arduino Programming*) Feb 2018 - Jan 2020
- Designed a secure voting system using barcodes, sensors, and Arduino. Featured in Bloomberg and Fortune 40 as a potential election solution, and won First Place at the 2019 International ROBORAVE Robotics Competition.

WORK EXPERIENCE

- Unifirst, Wilmington, MA** (*IT Co-op | App Development, Scripting, Tech Support*) July 2024 - Dec 2024
- Developed IT Quick Links application, a Windows-based utility streamlining access to IT resources, tools, and scripts, using PowerShell and WPF.
 - Improved operational efficiency by automating logon scripts, printer setups, and helpdesk task execution, reducing manual effort and minimizing configuration errors.
 - Resolved more than 2000 tickets about hardware and software issues.
- KarakaslarGroup, Izmir, Turkey** (*Full Stack Engineer | PHP, JavaScript, MySQL*) June 2023 - Aug 2023
- Built a PHP/MySQL management system with role based access control, reducing approval times by 50%.
 - Implemented dynamic search filters and automated notifications, saving 40% manual data entry time.
- MobileX, Istanbul, Turkey** (*Software Engineer Intern*) July 2020
- Trained in mobile applications for iOS and Android, gained back-end system experience. Participated in the "Aura Dashboard" project, observing database queries and analytics presentation on an interactive dashboard.