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Mohammed Ahmed

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Advanced Computer Science MSc student at Cardiff University with a strong foundation in programming and problem-solving, and practical experience with machine learning and web development. A proactive team player with strong communication skills, eager to contribute to the success of innovative organisations and grow in a professional setting.

Education

Cardiff, Wales, UK   **Cardiff University**   **Sep 2021 – Sep 2025**

– **MSc Advanced Computer Science (Sep 2024 – Sep 2025)**   **Grade: Pending**
- Modules: Cyber Security and Risk Management, Penetration Testing and Malware Analysis, Developing Secure Systems and Applications, Applications of Machine Learning: Natural Language Processing/Computer Vision, Social Computing, Programming Paradigms.

– **BSc Computer Science (Sep 2021 – Jun 2024)**   **Grade: First Class Honours**
- Key Modules: Forensics, Data Processing and Visualisation, Combinatorial Optimisation, Large-Scale Databases, Object Orientation, Algorithms and Data Structures, Scientific Computing, Group Project

Technical Experience

Projects

- **KRAMS: Keystroke Recognition using Augmented Mel-Spectrograms (Feb 2024 – May 2024):** Performs a Side-Channel Attack using SpecAugmented Mel-Spectrograms to train a CoAtNet deep-learning model with PyTorch that classifies keystrokes in an attack recording. Visualisations are created using Matplotlib and scikit-learn, with data augmentation and manipulation handled with librosa, NumPy, pandas, and SciPy.
  Achieved 80% as undergraduate degree final project.
- **TuneTracklist.com (Jul 2022 – Present):** A website that allows users to explore their musical preferences by displaying their top artists, tracks, and genres fetched from the Spotify Web API across different time frames – built on the Flask framework in Python using Jinja2 for templating and HTML/CSS/JavaScript for frontend design, with authorisation handled using OAuth 2.0.
- **Rate My Student Home (May 2023):** A website that allows students to rate their student home in Cardiff – built on the Flask framework in Python using SQLite for database management, Google Maps API for location services, and Jinja2 for templating and HTML/CSS/JavaScript for frontend design,
- **Abacws Advent of Code (Feb 2023 – May 2023):** A website that releases a new logic or coding puzzle daily. Each user is given a unique input to run in their code, producing a result used to validate its correctness - built on the Flask framework in Python using SQLite for data storage, Jinja2 for templating and HTML/CSS/JavaScript for frontend design.

Technical Skills

- **Programming Languages:** Python, Java, JavaScript, SQL, MATLAB
- **Libraries, Tools, Frameworks:** Flask, PyTorch, RESTful APIs, NumPy, pandas, Matplotlib, SciPy, scikit-learn, librosa, Git, SQLite, HTML, CSS, Jinja2, Linux, Windows

Extracurricular Activities and Interests

- **CyberSoc Member:** Active participant in the University's Cyber Society, attending Hackathons, workshops, and CTFs; part of a team that placed 2nd in a CTF competition.
- **Web Development & Coding:** Develop small projects and websites in my free time to sharpen skills in web development and programming.
- **PC Building & Upgrading:** Hands-on experience building and upgrading PCs for personal use and for others, staying current with advancements in hardware and technology.
- **Reading & Fitness:** Avid reader of personal development, business, and self-improvement books; also committed to fitness, regularly attending the gym to maintain a balanced lifestyle.