Barry Cheevers

Personal Details

+44(0)7803 540038, 2 Cranmore Avenue, Belfast, BT96JH , bcheevers123@outlook.com
Website: barrycheevers.co.uk

Profile

Recent first-class honours Software Engineering graduate from Queen's University Belfast with strong skills in cybersecurity and software development. Proven experience in developing innovative solutions and improving system security. Seeking a challenging role in the field of Cyber Security to leverage my expertise and contribute to cutting-edge projects.

Education

Queen's University Belfast 2019 – May 2024
First Class Honours - Master's in Software Engineering

Level 3:
Concurrent Programming: 75%
Cloud Computing: 83%
Video Analytics and Machine Learning: 74%
Secure Software Development: 91%
Network Security: 83%
Malware Analysis: 81%

Level 4:
Research and Development Project: 92%
Digital Transformation: 80%
Fairness, Interpretability and Privacy in ML: 86%
Parallel and Distributed Computing: 78%
Advanced Computer Engineering: 73%

Royal Belfast Academical Institution 2013-18
3 A-Levels:
Computer Science A Biology A Chemistry A
11 GCSEs (A*-C) including English Language A , Maths A

Relevant Experience

- **IT Assistant, School of Biological Sciences, Queens University Belfast**
  July 2023 – July 2024
  Developed Power Automate solutions to streamline faculty administrative tasks, including Travel Forms and Post Graduate Research Tracking. Continued enhancement and maintenance of the faculty's website, ensuring it meets current standards and user needs. Assisted in the migration of the school's systems to Windows 11, ensuring a smooth transition with minimal disruption. Created and secured content for visitor touch screen displays, enhancing user interaction and information accessibility.
- **R&D Intern, Illuminate Technologies, Edinburgh**
  July 2021 – July 2022
  Developed, maintained and improved CentOS7 based servers and software. Developed new features for bespoke in-house virtualization software, used by developers to manage resourceson a CentOS7 server. Setup and ran network scans on enterprise networks, and fixed any vulnerabilities found. Developed ansible scripts designed to expediate correct setup of servers,which were used at customer sites.
- **Lab Intern, Queen's University Belfast**
  June – August 2020
  Studied advanced cyber security techniques and set up web-based ticketing system to help with university's COVID response.

IT Skills

Operating Systems:
Windows 10, Linux, Mac OS
Programming Languages:
Java, Python, HTML, JavaScript, .NET, SQL, MySQL, C, C++, Ansible, Matlab Simulink, P4
Applications and Tools:
PyCharm, Visual Studio, Microsoft Office (Word, Excel, PowerPoint), Shotcut, SQL Server, Fusion 360, Confluence, Jira, Matlab, Power Automate, Wireshark, Metasploit, Ghidra, IDA, Snort, Suricata
Hardware Skills:
Fully assembled an Intrusion Detection System for a network using a Raspberry Pi as a project.
Worked on industry server racks, including models like R162-Z11, as part of my placement

Projects

Final Year Project: Scaling DoH Security: Feature Extraction on Network Switches

Developed a world-first Machine Learning (ML) pipeline using P4 for feature extraction on network switches, aimed at detecting malicious DNS over HTTPS (DoH) traffic. This project, completed as my final year thesis, improves scalability and reduces classification latency by leveraging the computational power of network switches. The outcomes of this research include the introduction of the novel pipeline BIRDS-CDH, which enhances detection efficiency by processing data closer to its source. Although the classification scores did not meet industry standards, they were significantly better than chance, demonstrating the potential for further refinement. This work sets a precedent for future studies on real-time DoH detection systems, focusing on improving scalability and reducing latency in enterprise environments. The research is likely to be published, contributing to the broader understanding of DoH traffic analysis and detection.

Denial Of Service Attack Detection

Developed a Machine Learning algorithm using sklearn to detect Denial Of Service (DoS) attacks on a network as part of the Computer Science Challenges Module.

Network Intrusion Detection System (FUZE)

Originated a Network Intrusion Detection System called FUZE, which detects internal network threats and protects the network by cutting off the connection to the infected device.

Database Management System for N.I Scout Group

Constructed a Database Management System for the N.I Scout Group for my A-Level Computer Science project, enforcing referential integrity independently.

Accreditations and Training

Google IT Support Professional Certificate Coursera, online, 2020, 3 weeks
Cyber Scheme Team Member (CSTM) Training Completed – Cheltenham, 2023 (1 week, exam not taken)

Work Related Skills

Problem Solving:

The Computer Science Challenges module I enrolled on provided a series of problems to solve. Given an end of year project and no lectures, students had to solve problems on their own. I had to construct a machine learning DDOS algorithm, having no experience in the field. I had to self-teach all the required knowledge and required disciplines.

Communication:

I won the QUB Student Enterprise Dragon's Den Competition with my FUZE project. This required me to effectively communicate my project as a business pitch and confidently field questions from a panel of judges. The experience honed my ability to present complex technical concepts in a clear, concise, and compelling manner, demonstrating strong verbal communication and public speaking skills.

Time/ Project Management:

During my final year project, I successfully managed the complex task of balancing technical work, literature review, and writing my own paper. Through effective time management techniques such as using Gantt charts and setting clear goals, I ensured that all deliverables were completed well before their due dates. This allowed ample time for feedback from my supervisor, ultimately resulting in an outstanding project grade of 92%.

Initiative & Teamwork:

For the Digital Transformation project, we were tasked with working collaboratively in an AGILE fashion. I took initiative by acting as the Scrum Leader, coordinating sprints and facilitating team communication. This project, which involved creating a temperature-sensing alarm, required effective teamwork due to the diverse skill sets within the team. I developed the front end and collaborated closely with the back-end developer and the hardware specialist to ensure accurate data representation to the user.

Business Awareness:

As part of the INVENT NI Competition I entered, I had to carry out a market analysis for the product I had made. This involved pouring over and making sense of countless government and private business reports for the cyber security sector.

Achievements

- Winner of QUB Student Enterprise Dragon's Den Competition
- Speaker at the Megaw Memorial Lecture
- Finalist in INVENT NI Competition 2020
- Winner of three Foundation Scholarships for achieving the best academic results (2020,2021,2023)
- Full UK Driver Licence
- Queen's Scout Award
- Gold Duke of Edinburgh Award
- Power Boat Licence
- British & Irish passport holder

Interests

Piano: Enthusiast and regular player, with a passion for classical and contemporary music.
Cooking: Enjoy experimenting with new recipes and cuisines, focusing on both culinary techniques and nutritional value.
Musical Theatre and Drama: Both acting and technical aspects (lighting and sound).
Travel: Gained international experience through travel to Malawi and Switzerland during my time in Scouting

References

Dr John Bustard, Lecturer and Head of QLab, Software Engineering, Queen's University of Belfast, University Road, BT7 1NN
Neil Campbell, R&D Programmer, Illuminate, First Floor, Apex 2, 97 Haymarket Terrace, Edinburgh, EH12 5HD
Ms Siobhan Fitzsimons, School Manager, School of Biological Sciences, 19 Chlorine Gardens, Belfast, BT9 5D