Mariyam Member

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Education

Bachelor of Information Technology — **Ontario Tech University** — *Oshawa, ON, CA* — **07/2022 - 06/2026**

- Major in Networking and Information Technology Security
- Courses: Advanced Networking, OOP, Computer Architecture, Discrete Math, Calculus, Algorithms & Data Structure, Computer Security, Web & Script Programming, Cloud Services, Cryptography & Network Security, Stats & Probability or IT, Machine Learning, Digital Transmission, Database Systems, Systems & Network Admin, Operating Systems Security

Skills

- **Programming Languages:** Python | JavaScript | PowerShell | C++ | C# | Bash | YAML | HTML | CSS
- **Backend Technologies:** Node.js | MongoDB | MySQL | AWS | Azure
- **Web Technologies:** React.js, JavaScript, Flutter, Typescript, HTML 5, Tailwind CSS, Bootstrap
- **Tools & Platforms:** Git | Docker | Kubernetes | npm | Cisco | Figma | Unity
- **Operating Systems**: Windows/WSL | Ubuntu | Kali Linux | VMware/VirtualBox
- **Networking & Security**: Cisco | Wireshark | SecureCRT

Projects

Case Study — **Advanced Networking** — **04/2024**

- Objective:
  - Collaborated in a group of three to design and deploy a LAN and WAN infrastructure for Ontario Tech University's campuses in Oshawa, Toronto, and Ottawa.
  - Aimed to interconnect campuses using MPLS WAN and DMVPN as a backup.
  - Set up a new switched LAN infrastructure in Toronto.
- Key Points:
  - **IP Addressing:** Assigned IPs to interfaces based on a predefined table.
  - **Switch Configuration:** Configured VLANs, VTP, trunk links, EtherChannels, and Spanning Tree Protocol.
  - **HSRP:** Implemented HSRP for VLANs, ensuring high availability with TOR-D1 and TOR-D2.
  - **MPLS and DMVPN:** Enabled MPLS and set up DMVPN Phase 3 with IPSec for secure backup connectivity.
  - **Routing Protocols:** Configured EIGRP Named Mode for dynamic routing and optimal path selection.
  - **Network Services:** Set up NTP for time synchronization, and verified connectivity using TCL scripts and traceroute.
  - **Verification and Testing:** Conducted comprehensive testing, including failover scenarios, ensuring network resilience.

EV Charging Station Route Optimization Application — **Algorithms & Data Structure** — **03/2024**

- Objective:
  - Collaborated in a group of 4 to develop an application to optimize EV charging station routes and enhance user convenience by analyzing distances between different charging stations.
- Key Contributions:
  - Implemented Dijkstra's algorithm to calculate the fastest path within a 23-node network.
  - Designed logic to recommend the most efficient route to each charging station based on the user's starting location.
  - Utilized NetworkX for visualizing the network of nodes and edges representing locations and distances.
- Outcome:
  - Provided users with optimized route suggestions, improving the ease of navigation for EV drivers and supporting sustainable transportation efforts.

Encryption Game — **OOP** — **03/2023**

- Objective:
  - Collaborated with a team to develop an encryption game utilizing various algorithms including Substitution, Playfair, Caesar, Transposition, Product, and RSA ciphers.
- Key Contributions:
  - Implemented the game using Python, adhering to Object-Oriented Programming (OOP) principles such as inheritance and operator overloading.
  - Integrated exception handling to enhance user experience and ensure smooth gameplay.
  - Maintained code readability by employing effective layout and indentation, and reduced duplication by refactoring common code into separate methods.
- Outcome:

- Demonstrated proficiency in encryption, cryptography, and algorithm implementation, showcasing advanced skills in OOP and teamwork.

To-Do List Website **Web and Script Programming** **11/2023**

- Objective:
  - Worked in a group of four to develop a dynamic to-do list website for task management.
- Features:
  - User authentication to secure access and manage individual task lists.
  - Real-time updates to ensure tasks are instantly reflected across all user devices.
  - Responsive design implemented using Angular, Node.js, and Bootstrap for seamless use across various screen sizes and devices.

Flappy Bird **Personal** **08/2024**

- Objective:
  - Created a Flappy Bird clone to practice game development and enhance skills in Unity and C#.
- Key Features:
  - Simple Controls: Tap to make the bird fly and navigate through a series of pipes.
  - Score and High Score: Track your current score and highest score within the game.
  - Sound Effects: Integrated sound effects for flying, hitting pipes, falling, and earning points.
  - Game Over Logic: The game ends when the bird crashes into a pipe or flies above the screen.
- Development:
  - Designed and built the game using Unity, with C# for scripting and implementing game mechanics.
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Animated Flower **Personal** **01/2024**

- Objective:
  - Created an interactive and visually captivating animated flower inspired by a viral TikTok trend. This project aimed to merge front-end and back-end technologies to deliver a modern, engaging web experience.
- Key Contributions:
  - HTML/CSS: Designed the layout and styling to ensure a responsive and appealing user interface.
  - JavaScript: Developed and controlled the animation sequences of the flower, including petal movements and colour transitions, to enhance interactivity and visual appeal.
  - Node.js & Nodemon: Set up a Node.js server to manage real-time updates and interactions, utilizing Nodemon for automatic server reloading during development.
- Outcome:
  - Successfully combined creative design with technical implementation to produce a dynamic web application that reflects trending aesthetics. Demonstrated proficiency in integrating multiple technologies to create a seamless and engaging user experience.

Portfolio **Personal** **08/2024**

- Objective:
  - Designed and developed a personal website to effectively showcase my profile, skills, and projects in a professional and visually appealing manner.
- Key Features:
  - Profile Section: Highlights my background, experience, and key competencies.
  - Skills Display: Organized presentation of my technical skills, categorized for clarity.
  - Project Portfolio: Showcases detailed descriptions and visuals of my projects, providing visitors with insights into my work.
- Development:
  - Built using Vue.js 3 for a dynamic and responsive user interface, with Tailwind and Bootstrap employed for modern, responsive styling.
  - Utilized HTML, CSS, and JavaScript to create a seamless and interactive browsing experience.
  - Integrated npm for managing project dependencies and ensuring efficient development.

Certification

- **She Codes Basics** **May 29, 2022**

An introductory course focusing on fundamental coding concepts and practices.

- **CCNA: Enterprise Networking, Security, and Automation** **June 20, 2023**

Certified in enterprise networking, security, and automation principles, demonstrating proficiency in Cisco network management and security

- **Angular Basics** **November 19, 2023**

Acquired foundational knowledge and skills in Angular, including core concepts and practical application in web development.