

# Fatema Ahsan Meem

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## EDUCATION

Masters of Engineering Information Systems SecurityExpected Dec 2024

Concordia University

Relevant Courses: Operating System Security, Systems Integration and Testing, Security Evaluation Methodologies, Network Security Architecture Management, Malware Defenses and Application Security

Bachelors of Science in Computer Science & EngineeringSep 2021

BRAC University

Relevant Courses: Cloud Computing, Algorithms, Data Structure, System Analysis & Design, Software Engineering

Research: Affective Computing Based Personalized Meal Recommendation

- Developed a model to recommend meals based on individuals' emotions by analyzing EEG signals to understand their feelings towards different foods.
- Conducted trials with 25 participants, utilizing EEG data from 14 channels to assess emotional responses to a variety of meals, improving personalization in meal recommendations.
- Applied machine learning algorithms, including Random Forest, KNN, SVM, and XGBoost, for emotion analysis and meal recommendation, demonstrating the feasibility of emotion-based food suggestions.

## PROFESSIONAL EXPERIENCE

Shopify Theme DeveloperJun 2022 - Dec 2022

Bevy Commerce

- Developed custom Shopify themes according to client's requirements
- Optimized website performance, and improved website performance by 80%
- Collaborated with different teams, including designers, testers, project managers, and clients to understand the requirements and deliver solutions
- Integrated third-party apps such as Klaviyo, Happy Returns, and Bevy Design to improve sales and customer experience
- Worked with the Shopify API to integrate third-party services, streamline processes, and automate tasks.
- Continuously maintained and enhanced app performance, regularly providing updates and additions to match changing user requests and industry trends.
- Translated Figma wireframes into functional customizable Shopify website

## SKILLS

Programming	JavaScript, Java, Python, jQuery Liquid, HTML, & CSS
Frameworks	ReactJS, VueJS, NextJS, Bootstrap, Tailwind
Database	Firebase, Redis, SQL, JSON
Tools	Github, Linux, Windows, Git, Docker, OpenStack, Wireshark, OpenStack, Figma
Methodologies	Scrum, OOP
Architectures	Rest API, MVC
Soft-skills	Time Management, Problem Solving, Effective Communication

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## PROJECTS

### Advanced Malware Analysis and Defense Using Ghidra

- Reverse engineered and analyzed executables using Ghidra, identifying critical vulnerabilities such as hard-coded passwords and buffer overflow.
- Developed Python scripts to automate the detection of security flaws, improving the efficiency and accuracy of malware analysis.
- Designed and implemented defense mechanisms in Python, enhancing the security of legacy software systems.
- Collaborated with a team to set up analysis environments, select malware samples, and produce comprehensive project documentation.
- Gained hands-on experience in advanced software security practices, reverse engineering, and tool usage.

### Container Guard: Security Application Implementation and Vulnerability Analysis in Container Environments

- Analyzed and mitigated security vulnerabilities within Docker containerized environments, significantly enhancing application security posture.
- Implemented key security measures, such as principle of least privilege user access, network isolation, and read-only filesystems, to protect against unauthorized access and attacks.
- Utilized Docker to conduct hands-on security testing, including SQL injections, TCP SYN attacks, and cross-site scripting (XSS) exploitation.
- Identified and demonstrated successful defense strategies against SQL injection, TCP SYN flood, and various forms of XSS attacks, improving container security.
- Collaborated effectively within a multi-disciplinary team, and created comprehensive reports outlining the process, findings, and recommendations for future security enhancements.

### Trust No-one: An In-depth Survey on Zero Trust Network Security

- Conducted a comprehensive analysis and survey of Zero Trust Architecture (ZTA), addressing the paradigm shift from traditional security models to the principle of "never trust, always verify".
- Explored ZTA's application across emerging technologies such as 5G networks, cloud computing, IoT, and machine learning, underscoring its critical role in contemporary cybersecurity frameworks.
- Investigated challenges in the implementation of ZTA, and analyzed various ZTA methodologies
- Highlighted the importance of continuous authentication and the dynamic nature of access controls within a Zero Trust model, aligning with modern security requirements.
- Conducted in a multidisciplinary research approach, taking insights from academic literature and industry reports to propose future advancements in authentication methods and micro-segmentation strategies.
- Identified and demonstrated successful defense strategies against SQL injection, TCP SYN flood, and various forms of XSS attacks, improving container security.
- Collaborated effectively within a multi-disciplinary team, and created comprehensive reports outlining the process, findings, and recommendations for future security enhancements.

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## EXTRACURRICULAR ACTIVITIES

### Graduate Student Ambassador

School of Graduate Studies, Concordia University

### Vice President of Communications

Bangladesh Graduate Student Association, Concordia University

### Assistant Director, Human Resources

BRAC University Computer Club

### Executive, IT

BRAC University Adventure Club

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## ADDITIONAL EXPERIENCE

### IO Solutions Inc

Aug 2023 - Present

Customer Service Representative - Rogers & Fido

Experienced Customer Service Representative capable of answering inquiries, assuring satisfaction, and fulfilling 100% performance targets with a proven track record of efficient communication, multitasking, and building client loyalty.

### Tim Hortons

April 2023 - Aug 2023

Counter Staff

Efficient and customer-focused counter staff delivering exceptional service and problem-solving, ensuring superior satisfaction.