Aditya Dey Seemanta

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Professional Summary

I have strong expertise in Python and C/C++. I specialize in full stack web development, mainly backend with Django with over 3 years of experience building custom authentication backends, middlewares and user models. Additionally, I have 3+ years of experience in Qt C++ for cross-platform desktop application development and over 2 years working with cybersecurity tools. I am a quick learner, responsible and consistently focused on security in all projects.

Skills

- **Languages:** C, C++, Python, Java, JavaScript, Ruby

- **Frontend:** HTML, CSS, React.js

- **Backend:** Django, REST API

- **Desktop Application Development:** Cross-platform apps using Qt with C++

- **Cybersecurity & Pen Testing Tools:** Metasploit, Burp Suite, Nmap, Scripting (CMD/Bash)

- **Databases:** PostgreSQL, MySQL, Sqlite3

- **Websockets & Caching:** Websockets, Redis

- **DevOps & Cloud:** Docker, AWS Web Hosting

- **Machine Learning Framework:** TensorFlow

- **Other Tools & Skills:** Git, Nvidia CUDA, Cross-language integration (C libraries with Python), Web scraping & automation with Selenium and BeautifulSoup

Projects

- **Vulture** — A desktop GUI application built with Qt C++ for rapid indexing and searching of system files and folders, significantly outperforming default Windows search. View project

- **Fashion Recommender System** — A Django web app with a custom TensorFlow machine learning model for fashion recommendations. Custom scraping script collects product data from "next.co.uk". View project

- **Overlay** — Real-time chat app using Django, WebSockets and Redis supporting chat groups with text, image and video messaging. It is hosted on Render for free.View project

- **DontWannaCry** — A harmless ransomware(WannaCry) inspired program built with Qt C++ that encrypts a random text file and displays a mock ransom message. View project

- **Rage** — Computer retailer website using Django with PostgreSQL, featuring user authentication, searching of items, item filtering, cart and favorites.It also has a custom admin panel.

- **YFrame Browser Extension** — A JavaScript browser extension for real-time video frame processing on YouTube videos supporting dynamic operations and extendable by machine learning models.

- **Bkash Payment Gateway (Django)** — A secure Bkash payment integration for Django applications using official API and transaction handling decorators. View project

- **GTX Super Sampling** — GPU accelerated image upscaling for GTX series using NVIDIA CUDA and machine learning super resolution models.

- **6-Bit CPU** — Custom 6-bit CPU designed and implemented in Logisim supporting ADD, NOT, and SHR operations with instruction-level demonstration. View project

- **Employee Management System** — A basic web application developed with PHP, HTML, CSS, and MySQL. Features include user account creation, login authentication and personal information display. View project

Research

- **Malware Unmasked: Reverse Engineering & Behavioral Analysis of Modern Threats** — Challenged a widely cited claim by demonstrating that the analyzed WannaCry sample does not contain the EternalBlue exploit, contrary to prior research. Conducted in depth reverse engineering of a high-entropy, packed LockBit 4.0 sample, highlighting how traditional unpacking methods can fail and showing that raw memory dumping can be an effective approach to uncover the internal behavior and structure of advanced malware.

Education

Rajshahi University of Engineering & Technology (RUET)   2020 – 2025
B.Sc. in Computer Science & Engineering
CGPA: 3.65 / 4.00

Notre Dame College, Dhaka, Bangladesh   2017 – 2019
Higher Secondary Certificate (HSC), Science
GPA: 5.00 / 5.00

Languages

Bangla (Native), English (Fluent)

Hobbies

- Exploring open-source projects and thinking through edge cases that might break the system

- Watching Premier League and La Liga football matches

- Traveling and enjoying natural landscapes