Owen Sheed

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Education

Elon University Elon, NC
Bachelor of Science in Computer Science, Minor in Data Science; GPA: 3.29 *Aug. 2020 – Dec. 2024*

Technical Skills

Languages: Python, Java, Javascript, C/C++/C#, Go, SQL (Postgres, MySQL), Bash, Powershell
Libraries: pandas, NumPy, Matplotlib, scikit-learn, XGBoost, Pthreads, CUDA, MPI
Tools: Postman, Burp Suite, Wireshark, Metasploit, Netcat, Nmap, John the Ripper, VS Code
Competencies: Web Application & Network Security, Malware Analysis, OSI Model, OWASP Top 10, Cryptography

Experience

Software Development Intern June 2023 – July 2023
Equiniti Trust Company *New York, NY*

- Developed a REST API in ASP.NET Core for user data, integrating JWT authentication, log4net logging, and async endpoints; stress-tested using a multithreaded Python script.
- Constructed a tool that parsed log files to produce detailed Excel reports, with features like error-specific reporting and SMTP-driven email delivery.
- Acquired in-depth proficiency in C# and .NET, focusing on advanced features like lambda expressions, asynchronous functions, and secure data handling techniques.
- Strengthened abilities in effective communication, rapid learning, and problem-solving, coupled with insights into the finance industry, particularly regarding funds and transfer agents.

Project Manager March 2022 – July 2022
EJB Investments *Miami, FL*

- Conducted comprehensive investment analyses, fostering relationships with potential investors, thereby facilitating funding for multiple investment ventures.
- Personally designed and built high-performance computers tailored for demanding applications, resulting in over a 151% speed enhancement, accelerating mission-critical processes.

Projects

ML Competition | Jupyter Notebook, pandas, sklearn, Matplotlib March 2024 – April 2024

- Participated in a university machine learning competition to predict someone's preffered beverage choice based on a large dataset with various demographic and lifestyle features.
- Performed comprehensive data cleaning and preprocessing, including handling null/negative values, one-hot encoding, and ordinal encoding, to prepare the dataset for modeling.
- Trained and optimized multiple models, including a K-Nearest Neighbors Classifier, Random Forest Classifier, and an XGBoost Classifier, using grid searches for hyperparameter tuning and visualizations for model evaluation.
- Achieved 86% accuracy in the competition, surpassing the previous year's winning model by 4 percentage points, through feature engineering, iterative model development, and performance analysis.

Open Data Service | Go, Chi Router, PostgreSQL, Logrus February 2023 – May 2023

- Backend development for service, focusing on the "Applications" module, leveraging the Chi router and PostgreSQL for efficient data handling.
- Designed key CRUD operations for user applications, from registration to revocation.
- Enhanced error handling and logging using the Logrus library, ensuring system resilience and ease of debugging.
- Employed the Mockery library for rigorous testing, ensuring code reliability and robustness.

Protein Folding Simulation | C, Pthreads, Performance Tuning and Analysis February 2023 – March 2023

- Developed a program to calculate the maximum number of H-H contacts in a given n-length protein, exhaustively walking every possible protein fold.
- Enhanced performance by multithreading with PThreads and aggressively optimizing base code such that each n-length protein only needs to score 3^{n-2} walks as opposed to the 4^{n-1} walks in the original.
- Achieved notable speed improvements: a 12-character protein previously took 132.98s, while the optimized parallel version completed in just 0.0269s. On average, the optimized parallel program decreased runtime by over 99%.
- Conducted comprehensive performance testing, utilizing python to write to Excel files for in-depth analysis.