

# Shahriyar Shawon

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## Education

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### Drexel University

*Bachelor of Science in Computer Science*

Philadelphia, PA

*September 2020 – June 2025*

**Concentrations:** Operating Systems and Computational Imaging

**Relevant Coursework:** Operating Systems (Linux and Plan9), Computational Photography, Computer Graphics, Concurrent Programming, Computer Networks, Machine Learning

## Technical Skills

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**Languages:** C, C++, Rust, Python, C#, Java, SQL, Javascript

**Frameworks:** Numpy, Pandas, FastAPI, Django, Flask, .Net Core/Framework, Entity Framework, JQuery

## Experience

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### Susquehanna International Group

*Software Developer Co-Op | C#, .NET, Oracle DB, MySQL, WPF*

Bala Cynwyd, PA

*September 2023 – March 2024*

- Developed a data integration system for 15 sources, enhancing accuracy and reliability for legacy web application rewrite
- Designed and implemented role based security access system to protect privileged data
- Redesigned web app to use central API for improved data sourcing flexibility
- Introduced caching mechanism to reduce lookup speed of stock information by 95%

### Susquehanna International Group

*Software Developer Co-Op | Python, Django, Linux*

Bala Cynwyd, PA

*September 2022 – March 2023*

- Developed a Service Level Agreement (SLA) violation alerting system
- Improved alerting system management by creating operations to modify on-demand
- Designed database architecture, implemented API functionality, and created a service for monitoring SLA states
- Enriched metric collection for HTCondor jobs
- Enhanced accuracy for identifying missing users from internal files

### Susquehanna International Group

*Web Developer Co-Op | C#, SQL, .Net Framework/Core*

Bala Cynwyd, PA

*September 2021 – August 2022*

- Created front-end for API to allow general purpose alerts to be set up at given intervals
- Restructured databases to implement new functionality within existing internal web applications
- Enriched internal project management tool by gathering up to date information

## Projects

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### Dynamic Image Compression Engine | C, Python, RP2040

- Built firmware for 2 RP2040 chips to interface with FPGA, IO Modules, and Power Monitor Chips
- Implemented dynamic image format to store lossy and lossless blocks of data using QOI and PNG codecs
- Created desktop app to control camera settings on the fly and log power/data metrics from hardware
- Engineered pipeline to compare software based encoding performance to hardware based encoding

### Chip 8 Emulator | Rust

- Modeled Chip 8 CPU as data structure to maintain internal state
- Implemented Fetch-Decode-Execute loop on Chip 8 ROMs
- Created disassembler to assist in emulator debugging

### Drexel Course Information API | FastAPI, grequests, BeautifulSoup

- Asynchronously scraped Drexel course information to keep records in database
- Created API to be able to query for classes based on multiple criteria