DREXEL UNIVERSITY College of Computing & Informatics

Raj Ray Chaudhury

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Education

Drexel University, Pennoni Honors College **Cumulative GPA: 3.92**

Bachelor of Science in ***Computer Science (Honors)****, Minors in* ***Math*** *and* ***Data Science*** *September 2019 - Present*

- **Dean's List**(All quarters)
- AJ Drexel Merit Scholarship (2019 - present)
- Clubs - i) Drexel Ventures **(Analyst)** ii) Drexel Algorithms and Data Structures (Member)

Experience

Susquehanna International Group LLP **Sept 2021 - Mar 2022**

Software Development co-op *Bala Cynwyd, Pennsylvania*

- Employed within the **Electronic Options Trading team** where I assisted the development, delivery and support of technical solutions for mission-critical proprietary and third party applications systems.
- Developed a .NET app that uses 12 parameters to audit up to 500 log files at a time through simultaneous optimized parsing.
  - Leveraged Python's multiprocessing module to maintain shared file queues and improved the backend processing time by 55%.
  - Built and maintained fully automated CI/CD pipelines for code deployment using GitLab, Team City and Octopus Deploy.
- Created a REST API in Flask that lets end users generate CSVs by running queries on a range of historical MySQL databases.
- Mitigated production incidents and saved trading dollars through a script (written from scratch) that automatically detects and flags duplicate IP addresses (host and its alias) that may have jobs scheduled on them in Tidal (automation software).
- Generated a dashboard that allowed my manager to assign/remove read/edit permissions for viewing sensitive reference data on a case-by-case basis (C# frontend that interacts with an Oracle database to pull employee records).
- Built a chrome extension In JavaScript that simplifies developer workflow and displays crucial server metadata with a click.

STAR Research Scholar **Jan 2021 - Sept 2021**

Drexel University, Prof. Weimao Ke *Philadelphia, Pennsylvania*

- Used Jupyter Notebook to implement a new algorithm (based on existing TF*IDF vectorizer) for **automated test classification.**
- **Cleaned test data** by grouping inflected forms of words through the Wordnet Lemmatizer in Python's **NLTK** library.
- Removed stop-words with an **iterated Lovins stemmer** through **tokenization and normalization** of documents.
- Used **k-NN (k-Nearest Neighbours)** as the core algorithm to **train and test both models** on **10000** randomly selected articles from the New York Times annotated collection.

Drexel Solutions Institute **Mar 2021 - Sept 2021**

Student Consultant for ***Longwood Gardens*** *Philadelphia, Pennsylvania*

- Identified **research designs** to integrate **VR/AR technology** into one of the world's **premier** horticulture gardens.
- Conducted thorough **literature review**, designed studies using **conjoint analysis** and **analyzed survey data** from **Qualtrics** to identify factors that bolster consumer engagement.
- **Scraped** and **grouped** over **4700** Google reviews to determine visitor location preferences prior to digitization.
- Examined over **450** sets of **eye-tracking** (OGAMA) and **EDA** (electrodermal activity) data in **R** to aggregate clean data.
  - Developed and deployed (via Heroku) an analytics app that demonstrated impact of sound complexity on consumer behavior.
- **Visualized** collected data and **presented** solutions to an interdisciplinary audience of industry and academic stakeholders.

Sharing Excess Inc **Sept 2020 – Mar 2021**

Software Developer *Philadelphia, Pennsylvania*

- Worked in a team to develop a **full stack web app** in **Python's Flask** framework that **saved 50 man hours** a month by **automating the process of scheduling** food deliveries between donors and recipients.
- Implemented **logging and tracking features** and stored relevant data in a **PostgreSQL database** as an incentive to all stakeholders to achieve our target of **100000 pounds** of food delivered **in 6 months.**
- Adopted **agile workflow** to tackle **bug fixes** and **improve UI experience** with feedback from the distribution team.
- Wrote **extensive documentation** to develop a **Software Review Specifications** guide and archive codebase changes.

Projects

Private Wealth Manager | *Python* **Dec 2021**

- Applied the Sortino Ratio formula to calculate and compare the profitability and risk of different investments using pandas.

Data Parser - CS 265 | *Bash, AWK, Linux* **Apr 2021**

- **Bash script** that **generates XML files** to display a **subset** of US Army veteran data on **formatted webpages.**
- Used **AWK** to scrape relevant data from a **temporarily created CSV** file for every legitimate combination of input.

Broke Bad | *React.js* **Jun 2019**

- **Front-end web application** to display **randomly generated** Breaking Bad quotes pulling data from an existing API.

Technical Skills

Languages: Python, Java, JavaScript, C, C#, C++, HTML/CSS, JavaScript, SQL, AWK, Bash, Racket, LaTeX, Microsoft Excel
Tools — Operating systems: .NET, Heroku, JQuery, React.js, Bootstrap, GitHub, Jira, Tableau, Qualtrics — Linux, Windows