KEVIN WILLIAMS

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EDUCATION

The College Of New Jersey (TCNJ)   May 2022
Bachelor of Science Computer Science
GPA: 3.7/4.0, Deans List (4/4 semesters)
- Data Structures, Discrete Math, Algorithms, Computer Architecture, Operating Systems, Databases, Computer Interaction

EMPLOYMENT

Lehigh University - Research Experience for Undergraduates; *SSS-RP Lab*;   May 2020 - Aug.
Modular and Elastic Data Structures   2020
- Utilized an Optimistic Skiplist implementation to develop a framework that partitions sequential data structures for fast, concurrent access.
- Established the Insert, Delete, Retrieval and Ranged operations for the framework using various p-thread locking and validation techniques.
- Integrated a Single Writer Multiple Reader locking implementation to control and maintain the state of the structure.
- Optimized the the system by allowing resizing of the partitions to keep a balanced load for specific use cases using contention based heuristics and developing merge and splitting functions
- Integrated the framework into the Syncrobench benchmarking tool to run testing and create performance models of the system
- Tools used: C, Thread library, Syncrobench (Testing and Benchmark Tool), Git

The College of New Jersey; *Tutoring Center*; TCNJ   Aug. 2019 - Current
- Tutoring peers in various college level computer science courses to help ensure that they understand key concepts within the Major and master languages like Java and C++ while also developing strong problem solving and communications skills

PROJECTS

Tutoring center Assistant for Centralized Operations   Dec. 2019 - Current
- Developed full stack web application to manage the TCNJ tutoring center operations
- Implemented the user hierarchy system to manage page permissions and ensure security of data by using Django Middleware and Embedded User Grouping System.
- Designed the database scheme to accurately represent and fulfill the requirements of the centers operations.
- Utilized Django QuerySets and the Forms library to control features for administration and users and then display them dynamically.
- Designed a criteria based scheduling algorithm to quickly and efficiently match a tutor and a student.
- Tools Used: Django, Python, HTML, Bootstrap, JavaScript, MariaDB, Git

SRHUB Visual Search Module   Feb. 2020 - May 2020
- Worked with a team to develop a full stack web application module for the New Jersey Sustainability Reporting Hub to enhance interactivity and retention of the site
- Handled database design, development and optimization for the application by ensuring all tables were fully normalized and queries were efficient
- Integrated the back-end flask application with the front-end D3.JS modules and Bootstrap stylings to display the data in both a dynamically generated pie chart and interactive map search
- Tools used: Flask, Python, Psycopg2, HTML, Bootstrap, D3.JS, PostgreSQL, Unix, Git

Animal Shelter Shiny App   Apr. 2020 - May 2020
- Developed a Shiny Application that uses animal shelter data to dynamically display different results.
- Utilized the Shiny App UI fields to take inputs from the users and display data curated to the users input.
- Integrated R data wrangling and manipulation techniques to generate the queries specified by the users
- Developed a script in Java to clean an animal shelter intake file and format it for the Shiny Application
- Tools Used: Shiny App, R, Java

ACTIVITIES

Google Student Developers Club E-Board, *Events Team Leaders*   Aug. 2020 - Current
- Help coordinate and plan the events for the Club

Association for Computing Machinery E-board, *Outreach Chair*   Aug. 2020 - Current
- Manage the ACM social medias and increase member turn out of each meeting
- Occasionally give presentations on tech and academic topics