Kevin Williams

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EDUCATION

The College Of New Jersey (TCNJ) May 2022
Bachelor of Science Computer Science
GPA: 3.34/4.0, Deans List (4/6 semesters)

EMPLOYMENT

Lehigh University Research; ***SSS-RP Lab***; Modular and Elastic Data Structures May 2020 - Current

- Adapted a concurrent optimistic skiplist implementation into a framework that partitions sequential data structures for fast, concurrent access to eliminate the burden of developing efficient cocurrent data structures
- Established the Insert, Delete, Retrieval and Ranged operations for the framework using various p-thread locking and validation techniques to act as an API between programmer data structures and the framework
- Integrated a single writer multiple reader locking implementation to control and maintain the state of the structure
- Produced heuristic based structure modification algorithms to maintain consistent and efficient opperation time complexity through multiple workloads
- Integrated the framework into Syncrobench to run test and create performance models of the system

- Tools used: *C, Thread library, Syncrobench (Testing and Benchmark Tool), Git*

The College of New Jersey; ***Summer Scholar Mini-Course Instructor***; EOF Department Aug. 2021 - Aug. 2021

- Co-Led a two week long drone course for incoming EOF computer science freshmen
- Designed and co-taught an entry level python course to familiarize students with basic programming techniques and understanding
- Created a Tello and CV2 library tutorial to help students interact with and control Tello drones with image processing
- Aided students implementing and debugging procederal drone programming with simple object and color detection

- Tools Used: *Python, TelloEDU Drone, CV2, Tello*

The College of New Jersey; ***Tutoring Center***; TCNJ Aug. 2019 - May 2021

- Tutored peers in various college level computer science courses to help ensure that they understand key concepts within the Major and master languages like Java, C and C++ while also developing strong problem solving with data structures and algorithms

PROJECTS

Aslan May 2021 - Current

- Working in a team of 5 to build a full stack management and registration system for TCNJ's hackathon
- Implmented a custom user grouping and permission system to restrict access and ensure data security
- Developed a custom QR code checkin system for the event to reduce congestion and provide a better user expeience
- Established the CRUD functionality for the core site MVP

- Tools used: *Django, Python, HTML/CSS, Javascript, PostgreSQL, Git*

Tutoring center Assistant for Centralized Operations Dec. 2019 - May 2021

- Developed full stack web application to manage the TCNJ tutoring center operations
- Spearheaded a user hierarchy system that manages page permissions utilizing Django Middleware and Embedded User Grouping System to meet the centers administration needs
- Designed an SQL database scheme to represent and fulfill the requirements of the centers operations
- Custom built a criteria based sheduling algorithm to schedule tutoring sessions quickly and efficiently

- 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*

ACTIVITIES

Association for Computing Machinery E-board, *President* Aug. 2021 - Current

- Manage the TCNJ ACM Chapter, leading a team of 5 eboard members