Thomas Kubik

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EDUCATION

University of Illinois at Chicago (UIC) – Chicago, IL
Bachelor of Science in Computer Science - Software Engineering   GPA: 3.59/4.0   Graduated: May '22
Bachelor of Science in Bioengineering

EXPERIENCE

Research Assistant – University of Illinois at Chicago   Dec '17 – May '18
- Developed code in MatLab used to solve for pressures in the system of arteries in the brain using flow rates gathered from patient data. Verified flow rates used for potential drug delivery applications.

PROJECT

Inline home antimicrobial filtration - University of Illinois at Chicago
- Lead team to implement innovative proprietary composite material for inline anti-microbial water treatment to evaluate antimicrobial claims.
  - Designed test methodology and apparatus to evaluate flow properties of composite as well as perform E.coli efficacy testing in a lab setting.
  - Testing data analysis showed that in order to minimally affect home water pressure and flow rate that the composite material would need to be used in parallel to allow for more throughput.
  - E.coli efficacy testing was inconclusive due to no change in colony counts between culturing samples from control and a substantial amount of passes through the composite material.

Computer Science Projects
- Fitness Web Application
  - Created a web application that allows users to find fitness exercises that will allow them to stay consistent with their fitness while avoiding aggravating their existing injuries.
  - Designed and implemented a PostgreSQL relational database to contain user injury data and exercise data to query for exercises based on user specified injuries and parameters which is usable through a Blazor frontend which utilizes C#, ASP.NET and a RESTful API.
  - It allows users to find exercises in a fraction of the time. This will allow them to stay consistent with their fitness without aggravating their injuries. Users also do not need much fitness knowledge since exercises are recommended to them based on their injuries and goals.
- Nutrition and Fitness Mobile Application - University of Illinois at Chicago
  - Built an Android application allowing users to track their nutritional intake based on restaurants around them, food in a database, and custom meal intake entries.
  - Utilized the NutritionIX V2 API (Application Programming Interface) for nutritional information from restaurants, and a NoSQL non-relational database for storing user data alongside a mobile application.
  - Practices such as three, four week sprints, and Kanban boards to track progress on user stories were used to continuously provide functionality for the end user while working in a small team.
  - This resulted in an easy to use mobile application in which there was less of a barrier to entry to add meals while you eat out at restaurants due to the application utilizing an API that contains restaurant meal information.
- National Park Reporting - University of Illinois at Chicago
  - Prototyped an application to allow National Parks to gather park data on incidents and issues throughout the park by leveraging the high number of park visitors.
  - Created a client/server application utilizing Java and JavaFX for the frontend to allow park visitors (the client) to report incidents to the park staff (the server) in real time allowing the park staff to be aware of issues throughout the park much quicker than normal.

SKILLS/KNOWLEDGE

Knowledge – Software Design, OOP (object-oriented programming), Design Patterns, Database Systems, User Interface Design, Computer Algorithms, and Data Structures, software unit testing, UML, Software development lifecycles, basic AWS Cloud knowledge, Linux OS basics, some embedded programming utilizing Arduino
Programming Languages – C#, C++, Java, JavaScript, Python, SQL, HTML, CSS, C
Methodologies – Agile methodology, Scrum, Lean, Kanban
Frameworks/Tools – GIT, MySQL, PostgreSQL, React, Blazor, Next JS, Jira, Visual Studio, Eclipse, Android Studio, Junit