Furkan Karabulut

Raleigh, NC: Open to Relocation	frkrbltn2332@gmail.com	https://github.com/frkrbltn	https://www.linkedin.com/in/furkan-karabulut01/	https://fkarabulut.com

EDUCATION

B.Sc. in Computer Science 08/2021 – 05/2024
North Carolina State University, Raleigh, NC
GPA: 3.2 / 4.0

SKILLS

Language:	Java, C, Python, JavaScript, SQL, TypeScript, CSS, HTML
Tools:	VS Code, Eclipse, Jupyter Notebook, JetBrains (IntelliJ, CLion, WebStorm)
Operating System:	Microsoft, macOS, Linux

WORK EXPERIENCE

Software Engineer (Intern), Live Oak Bank: 06/2023 – 08/2023
Projects: Full-stack developer Raleigh, NC

- Served as a full-stack developer, with a focus on RESTful API and Front-end
- Executed front-end tasks using CSS, Bootstrap, and React
- Explore Docker, Terraform and AWS

Software Engineer (Part-Time), PQSecure Technologies: 01/2023 – 06/2023
Projects: Memory Optimization for data structures Remote

- Algorithm level analysis of XMSS and LMS
- Optimized L-Tree with Merkle tree traversal
- Optimized XMSS's authentication node update algorithm
- Contributed to 2 patent applications

Undergraduate Researcher, North Carolina State University: 06/2022 – 11/2022
Project: Algorithm Profiling & Efficiency Optimization Raleigh, NC

- Profiled implemented algorithm blocks
- Performed optimization on run-time efficiency

PERSONAL PROJECTS

Data Structure:

- Performing running time efficiency, analyzing properties of program, and asymptotic
- Implementing array, linked memory of lists, stacks, queues, graphs, and trees.
- Searching and using lists, unbalances tree structures (binary search trees, splay trees)
- Analyzing and implementing sorting (heap, merge, insertion, selection, quick , counting, radix sorting algorithms)

Coffee Maker Application:

- Engineered RESTful APIs using Java with Hibernate for seamless order and payment processing in the application.
- Deconstructed complex client requirements into actionable user stories, ensuring essential functionalities and system robustness.
- Design backend sequence diagrams to architect a scalable and resilient Coffee Maker application, facilitating future enhancements.
- Refined frontend user interface flow with AngularJS, HTML, CSS and JavaScript, enhancing the customer ordering experience for both managers and baristas.
- Structuring a robust MySQL database design, optimized for high-performance data handling and integrity.

PUBLICATIONS AND PATENTS

- Method for computing unbalanced L-Trees efficiently for hash-based signatured used in post-quantum
- A memory efficient method for the implementation of left node authentication in hash-based signatures data structure