Kerem Akıllıoğlu

Waterloo, Ontario, Canada | keremakillioglu9@gmail.com | +1 647 870 6389
linkedin.com/in/keremakillioglu | keremakillioglu.github.io | github.com/keremakillioglu

EDUCATION

University of Waterloo, Waterloo, Canada   **Sept 2021- Current**
Masters of Math in Computer Science, Faculty of Mathematics
- GPA: **93/100**
- Advisor: **Prof. Tamer Özsu**
- Thesis Topic: **Query Optimization in Streaming Graph Databases**

Sabancı University, Istanbul, Turkey   **Sept 2016- June 2020**
Bachelor of Science in Computer Science and Engineering, Faculty of Engineering
- GPA: **3.51/4.00**
- Advisor: **Prof. Yücel Saygın**
- Thesis Topic: **Effective Labeling Relationships with Active Learning**

Nanyang Technical University, Singapore   **Aug 2018- Dec 2018**
Exchange Program in School of Computer Science and Engineering

EXPERIENCE

Graduate Research Assistant, University of Waterloo, Waterloo, Canada   **Sept 2021- Current**
- Working on adaptive query optimization where underlying properties of the streaming graph deviates dynamically.
- Developed a novel cardinality estimation method using graph-native data structures, adhering to streaming constraints.
- Streamlined S-Graffito by developing an SQL parser in Python, a query parser in Rust, and a cardinality estimator in Java

Software Engineer, Admost Mediation Limited, Istanbul, Turkey   **June 2020- July 2021**
- Developed APIs and server-side services for a diverse client base; used Golang, C# .NET and Javascript.
- Database administration of PostgreSQL and MongoDB deployments.

Research and Development Intern, Bekaert Asia R&D Center, Wuxi, China   **July 2019- Sept 2019**
- Initiated a project to automate the process of measuring the rubber covering on wires manufactured by the company.
- Installed a compact system to capture photos and reconstruct 3D models of wires using Python.

Research Intern, Data Analytics Lab at Nanyang Technical University, Singapore   **Dec 2018- Feb 2019**
- Under supervision of Professor Sourav Bhowmick, conducted a project to bridge graph data management with Human Computer Interaction in order to understand the adoptability of graph query languages on end users.

Research Intern, Data Systems Group at University of Waterloo, Waterloo, Canada   **June 2018- Aug 2018**
- Processed streaming data over graph databases and contributed to an open-source project Apache Tinkerpop.
- Under supervision of Professor Tamer Özsu, implemented graph traversal algorithms with Java, wrote queries with Gremlin Query Language and ran experiments on several datasets to test the efficiency.

TEACHING

Teaching Assistant, University of Waterloo   **Sept 2021- Current**
- CS638, Principles of Data Management, Fall 2023
- CS348, Introduction to Database Systems, Spring 2022
- CS338, Computer Applications in Business: Databases, Winter 2022
- CS114, Principles of Computing for Science, Fall 2021

Learning Assistant, Sabanci University   **Feb 2017- June 2018**
- IF100, Computational Thinking, Spring 2018
- NS101, Science of Nature, Spring 2017, Fall 2018

SCHOLARSHIPS AND AWARDS

Fully Funded Thesis Based Master's Program, University of Waterloo   **Sept 2021- Current**
International Master's Award of Excellence Scholarship, University of Waterloo   **Sept 2021- Current**
Cornell, Maryland, Max Planck Pre-Doctoral Research School, Max Planck Institute   **Aug 2022**
Merit Scholarship, Covers Tuition Costs, Sabanci University   **Sept 2016- June 2020**
International Internship Scholarship Program, Crossing Paths   **June 2018**

LEADERSHIP ACTIVITIES AND VOLUNTEER WORK

Mathematics Faculty Graduate Students Association Chair, Waterloo   **Sept 2022- Current**
Data Systems Group Lab Committee Member, Waterloo   **May 2022- Current**
Eurobasket 2017 IT Volunteer, Turkish Basketball Federation, Istanbul   **Aug - Sept 2017**

SKILLS

Language: Turkish *(Native)*, English *(Advanced)*, German *(Beginner)*
Programming: Python, Java, C#, C++, Golang, R, Javascript, SQL, Cypher