BERK ALP YAKICI

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EDUCATION

Rice University, Houston, TX *Expected 2022*
Bachelor of Science in Computer Science, Minor in Data Science and Mathematics

TECHNICAL SKILLS

Software Engineering	Python, Java, C/C++, SQL/NoSQL, JavaScript, PHP, CSS, HTML
Algorithmic Thinking & Math	Dynamic, Parallel & Concurrent Programming, Linear Algebra, Number Theory

WORK EXPERIENCE

AI/ML - Software Engineer Intern - Siri SKP at **Apple**, Seattle, WA *May - August 2021*

- Designed and built a distributed data ingestion service on **Java** for an internal service that processes more than 50 million records in 12 hours, and deployed it via **Kubernetes**.
- Integrated the service with monitoring tools such as **Graphite** and **Splunk**, built a custom **Grafana** dashboard for real-time alerts and diagnostics, and integrated the service with an automated A/B continuous evaluation platform.
- Helped onboarding new full-time engineers to the team.

Machine Learning Consultant at **Bill.com**, Houston, TX *January - May 2021*

- Developed a real-time, **deep-learning/logistic regression** hybrid model to monitor customer service chats and dynamically predict the probability of a positive outcome.
- Successfully flagged 75% of negative outcomes at the midway point of an ongoing conversation.

Undergraduate Researcher at **Rice University CS Bioinformatics Group**, Houston, TX *May - August 2020*

- Worked with Prof. Luay Nakhleh on an heuristic divide-and-conquer approach for phylogenetic network inference.
- Wrote an experiment platform on **Java** and **Python** that builds a hitting-set problem and generates the minimal set.
- Utilized 3-SAT solver, graph search algorithms (i.e. **DFS** and **BFS**), and data structures (i.e. **binary** & **spanning trees**).
- The platform reduced the input size from 680 to approx. 30, coinciding with a 22.67x **speedup** and $1,625$ less CPU-hours in 24 test cases of varying difficulties. $23/24$ test cases successfully produced correct phylogenetic networks.

Back-end Software Engineer Intern at **OpenStax**, Houston, TX *May - August 2019*

- Wrote internal software on **Django** and **Python 3** such as a metadata scrapper and an import/export tool to transfer content in between content-management servers. The software is later open-sourced and maintained on **GitHub**.
- Parsed **Salesforce** data and wrote visualization tools using **MapBox** API to measure and track adoption rate.
- Wrote **OAuth 2.0** interface to allow external services to securely communicate with OpenStax services.
- Focused on automated unit testing and increased the project **code coverage** from 81% to 89% (out of 33,621 lines).

TEACHING EXPERIENCE

Head Teaching Assistant	COMP 382: Reasoning About Algorithms	*Fall 2021, Fall 2020*
Head Teaching Assistant	COMP 182: Algorithmic Thinking	*Spring 2021, Spring 2020*
Teaching Assistant	COMP 140: Computational Thinking	*Fall 2019, Spring 2019*

LEADERSHIP EXPERIENCE

President	Rice Computer Science Club	*April 2021 - Present*
Committee Chair	Rice Computer Science Club	*May 2020 - April 2021*
Public Affairs Officer	Rice Eclipse Rocketry Team	*April 2021 - Present*
Avionics Team Lead	Rice Eclipse Rocketry Team	*December 2018 - April 2021*

PROJECTS

Rocket Engine Control and Testing Software (RESFET) *August 2019 - May 2021*

- Wrote a hybrid rocket engine control software in **C++** that actuates valves, collects raw sensor data, performs ignition, and communicates with a remote dashboard using **UDP** and **TCP** protocols with average 0.2% packet loss.