Zeki Gurbuz (Gürbüz)

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EDUCATION

UNIVERSITY OF TEXAS AT AUSTIN
BS, Computer Science Honors, Turing Scholars Program
BS, Mathematics
December 2024 | Austin, TX
GPA: 3.8972 / 4.0

SELECTED COURSEWORK

(* = Honors, ** = Graduate)
Honors Thesis *
Operating Systems *
Algorithms & Complexity Theory *
Cryptography **
Lattices and Pairings **
Randomized Algorithms
Programming Languages *
Computer Architecture *
Data Structures *
Discrete Mathematics *
Algebraic Structures I, II **
Topology I, II
Linear Algebra *
Number Theory
Probability
Stochastic Processes
Multivariable Calculus
Quantum Computing I, II
Competitive Programming

SELECTED AWARDS

UT ICPC Regionals Team
USACO Platinum - Top ~5% US
AIME Qualifier 2021 - 120/150 AMC 12
2300+ Rated LeetCode - Top <1%
UIL CS Individual 2021 - 1st Place TX
UIL CS Team 2021 - 1st Place TX
UT Dallas BoTB 2021 - 1st Place TX
HP CodeWars 2020, 2021 - 1st Place US
Atlassian CTF 2022 - 3rd Place

ACTIVITIES & ORGS

UTPC

Created numerous algorithmic and mathematics-based coding puzzles
Helped to organize biweekly ICPC-style competitions frequently garnering >100 contestants across the US
Provided in-depth solution presentations

DIRECTED READING PROGRAM

Studied algebraic topology and algebraic geometry under the supervision of PhD students
Presented material for other student and mentor pairs at DRP symposiums; slides

DENT CYBERSECURITY

Competed in numerous US-wide "capture the flag" style competitions
Solved various cryptography and reverse engineering challenges
55th out of 17,875 US teams in 2020

EXPERIENCE

JANE STREET | Incoming Trading Intern
May 2025 - August 2025 | New York City, NY

JANE STREET | Software Engineering Intern
May 2024 - August 2024 | New York City, NY

UNIVERSITY OF TEXAS AT AUSTIN | Undergraduate Researcher
August 2023 - December 2024 | Austin, TX

- Working with Dr. David Wu on private information retrieval

VIRTU FINANCIAL | Software Engineering Intern
Atlas Development Team
May 2023 - August 2023 | New York City, NY

- Designed and implemented a tool for tracking price improvement for retail order flow
- Automated the process of creating and updating intraday price improvement rules algorithmically in Java
- Graphically represented effective over quoted (EQ) and price improvement data using Python, showing massive improvement in EQ consistency

UNIVERSITY OF TEXAS AT AUSTIN | Teaching Assistant
Competitive Programming
January 2023 - May 2023 | Austin, TX

- TA for CS104C (Competitive Programming) for Dr. Glenn Downing & Dr. Etienne Vouga
- Held office hours, helped to lead discussions, graded assignments

UNIVERSITY OF TEXAS AT AUSTIN | Teaching Assistant
Discrete Mathematics Honors
Fall 2022, Fall 2023, Fall 2024 | Austin, TX

- TA for CS311H (Discrete Mathematics, Turing Scholars Honors) under Dr. Isil Dillig
- Held office hours, helped to lead discussions, graded problem sets, proctored exams

FOREFLIGHT | Software Engineering Intern
iOS Mobile Application Development in Swift
May 2022 - August 2022 | Houston, TX

- Coded in Swift using the SwiftUI framework and PencilKit to implement an entirely new flight plan signing feature for FDPx+, allowing pilots to sign off on an OFP before takeoff
- Implemented key features of FDPDesignKit for the FDPx+ team, consolidating UI components into an easily modifiable and interactive library for developers
- Drastically reduced the amount of time needed to draft UI features by maintaining a very concise dependency graph (allowing the efficient use of Xcode previews), and increasing guarantees of conformance to spec by breaking down UI to the "atomic level"
- Learned about the MVVM pattern, dependency injection, and Objective-C networking

PROJECTS

CO-ROUTINES

- Designed and implemented co-routines in C as a pseudo-native language feature
- Utilized x86 Assembly, C, and in-line x86 Assembly to achieve desired behavior

GAME BOY ADVANCE EMULATOR

- Used C++ and ARM7TDMI Assembly to create an emulator and vast testing suite
- Worked on the implementation of bitmap graphics and instruction emulation

MALLOC AND FREE

- Redesigned and implemented C's "malloc" and "free" in C without additional memory
- Used the first-fit algorithm and a doubly linked list for constant-time node merges/splits

PIPELINED PROCESSOR

- Used the HDL Verilog to create an efficient pipelined AArch64 processor
- Supported a reduced instruction set with large speedups over a standard design