Muhammet Boran
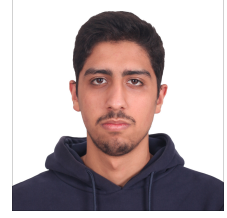
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EDUCATION	**Yildiz Technical University**, Istanbul, Turkey
	B. Sc., Mathematics, GPA: 3.41/4.0 2020 - June 2024
	Undergraduate Thesis:*"Distribution of Primes in Arithmetic Progression: A Study on Dirichlet's Theorem" Here*
	Advisor: Prof. Dr. Murat Alan

RESEARCH INTERESTS
Number Theory, Algebra, Analytic Number Theory, Algebraic Number Theory, Distribution of Prime Numbers.

ACADEMIC EXPERIENCES

Polymath Jr. REU   Undergraduate Research Student
Summer 2022   USA

- Number Theory Group under the supervisor Prof. Steven J. Miller.
- We did an investigation about a special arithmetic function which is v-palindrome.
- We characterized the conjecture "There is no prime v-palindrome."
- Works presented in the CANT 2023 conference and submitted the paper to conference proceedings.

TÜBİTAK REU   Undergraduate Research Student
Nov 2022- April 2023   Sabancı University, Istanbul

- I did research about Real Zeros of Random Polynomials under the supervisor Assoc. Prof. Turgay Bayraktar.
- We tried to approximate the expected real zeros of standard normal distribution polynomials using the KAC integral formula.
- Research program supported by TÜBİTAK.

Polymath Jr. REU   Undergraduate Research Student
Summer 2023   USA

- Number Theory Group under the supervisor Prof. Steven J. Miller.
- We did investigations about the "Sum of Powers of Primes" which related to the Prime Number Theorem and the Riemann Hypothesis.
- Our main purpose was to generalize the "Sum of Powers of Primes" into prime in arithmetic progression.
- We have submitted the paper and were presented at JMM 2024.

PUBLICATIONS

1. **Muhammet Boran**, Garam Choi, Steven J. Miller, Jesse Pruice, Daniel Tsai, "*Characterization of Prime v−palindrome*", submitted to Springer (CANT) proceedings, (May 2023). Available at https://arxiv.org/abs/2307.00770

2. **Muhammet Boran**, John Byun, Zhangze Li, Steven J. Miller, Stephanie Reyes "*Sums of Powers of Primes in Arithmetic Progression*", published in The PUMP Journal, **7** (2024), 29–50. Available at https://journals.calstate.edu/pump/article/view/3918

3. Chris Bisbelps, **Muhammet Boran**, Garam Choi, Steven J. Miller, Jesse Pruice, Daniel Tsai, "*v-Palindromes: An Analogy to The Palindromes*", submitted to The PUMP Journal (Oct 2023). Available at arxiv https://arxiv.org/abs/2405.05267.

TALKS

Combinatorial and Additive Number Theory Conferences (CANT)
University of New York   May 2023
• Characterization of prime v-palindrome.
See the slides presented in conference.

Join Mathematician Meeting (JMM)
Boston   Jan 2023
• Investigations of v-palindromes and extensions to f -palindromes.
See the slides presented in conference.

Join Mathematician Meeting (JMM)   San Francisco   Jan 2024

Power Sums of Primes in Arithmetic Progression
See the slides presented in conference.

GRANTS, FELLOWSHIP, HONORS

Cahit Arf Fellowship   TURKEY
November 2023-June 2024   *given by Turkish Mathematical Society*

2247-C TÜBİTAK (Undergraduate Research Fellowship)   TURKEY
November 2022-April 2023   *given by Sabancı University*

Honor Student (Department of Mathematics)   TURKEY
.   *Yıldız Technical University*

OTHER EXPERIENCES

Turkey Mathematical Club (Türkiye Matematik Klübü)   TURKEY
2021 — 2022
• We're creating workshops about interesting areas in mathematics.
See more details.

Mathematics World (Matematik Dünyası)   TURKEY
2021 — 2023
• We write some of the old journals of the Matematik Dünyası on our website and make them easily accessible.
See more details.

LANGUAGES   Kurdish (Native), Turkish (Native), English (Fluent) IELTS Academic 6.5.

SKILLS   Java (intermediate), Phyton (Beginner), LaTeX, Maple.