



# Mustafa Ozan Karsavuran

## Address

Bilkent University  
Computer Engineering Department  
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PERSONAL INFORMATION    ♦ **Birth:** December 20, 1988 in Bornova, İzmir, Turkey.  
♦ **Citizenship:** Republic of Turkey.  
♦ **Language:** Turkish (native) and English (fluent).

RESEARCH INTERESTS    ♦ Parallel Computation  
♦ Distributed and Shared Memory Architectures  
♦ Sparse Tensors  
♦ Sparse Matrices  
♦ Cache Locality  
♦ Hypergraph Partitioning

PUBLICATIONS    ♦ M. O. Karsavuran, S. Acer and C. Aykanat, "Partitioning Models for General Medium-Grain Parallel Sparse Tensor Decomposition," in *IEEE Transactions on Parallel and Distributed Systems*, vol. 32, no. 1, pp. 147-159, 1 Jan. 2021, doi: 10.1109/TPDS.2020.3012624.  
♦ M. O. Karsavuran, S. Acer and C. Aykanat, "Reduce Operations: Send Volume Balancing While Minimizing Latency," in *IEEE Transactions on Parallel and Distributed Systems*, vol. 31, no. 6, pp. 1461-1473, 1 June 2020. doi: 10.1109/TPDS.2020.2964536  
♦ M. O. Karsavuran, K. Akbudak and C. Aykanat, "Locality-Aware Parallel Sparse Matrix-Vector and Matrix-Transpose-Vector Multiplication on Many-Core Processors," in *IEEE Transactions on Parallel and Distributed Systems*, vol. 27, no. 6, pp. 1713-1726, June 1 2016. doi: 10.1109/TPDS.2015.2453970

WORK EXPERIENCE    ♦ **Postdoctoral Researcher**  
Bilkent University, September 2020 – present, Ankara, Turkey  
♦ **Teaching Asistant**  
Bilkent University, 2012 Fall – 2020 Spring, Ankara, Turkey  
Courses: CS 101: Algorithms and Programming I, CS 102: Algorithms and Programming II, CS 224: Computer Organization, CS470: Introduction to Applied Cryptography, CS473: Algorithms I  
♦ **Intern**  
Turkcell İletişim Hizmetleri A.Ş., ICT, July – August, 2011, İstanbul, Turkey  
Tested projects developed with Microsoft SharePoint and wrote Analysis Document  
♦ **Intern**  
CMA Danışmanlık ve Bilişim Teknolojileri, June – July, 2010, İzmir, Turkey  
Web based Project Management Service using ASP.NET and customized .NET logging library using log4net

- EDUCATION
- ◇ **Doctor of Philosophy in Computer Engineering**  
Dept. of Computer Engineering, Bilkent University, September 2014 – August 2020.  
Thesis: Reducing Communication Overhead in Sparse Matrix and Tensor Computations  
Advisor: Cevder Aykanat  
CGPA: 3.47/4.00
  - ◇ **Master of Science in Computer Engineering**  
Dept. of Computer Engineering, Bilkent University, September 2012 – September 2014.  
Thesis: Increasing Data Reuse in Parallel Sparse Matrix-Vector and Matrix-Transpose-Vector Multiply on Shared-Memory Architectures  
Advisor: Cevder Aykanat  
CGPA: 3.60/4.00
  - ◇ **Bachelor of Science in Computer Engineering**  
Dept. of Computer Engineering, Bilkent University, September 2007 – June 2012.  
CGPA: 3.44/4.00
  - ◇ **High School**  
İzmir Fen Lisesi 2003 – 2006.  
Diploma Degree: 4.12/5
- HONORS
- ◇ Design Award for Senior Design Project from Bilkent University, 2012
  - ◇ 100% Merit Scholarship from Bilkent University 2010 – 2012
  - ◇ High Honor at 2009 – 2010 Fall, 2010 – 2011 Fall, 2010 – 2011 Spring, 2011 – 2012 Fall, 2011 – 2012 Spring from Bilkent University
  - ◇ Honor at 2008 – 2009 Fall, 2009 – 2010 Spring, from Bilkent University
  - ◇ Ranked as 1st at III. Dokuz Eylül University Science and Engineering Project Contest, 2006
  - ◇ Ranked as 2nd in TÜBİTAK National Project Contest for High School Students, 2006
  - ◇ Ranked as 911th in National High School Entrance Exam, Turkey, 2003.
- PERSONAL AFFILIATIONS
- ◇ IEEE Membership 2010 – present
  - ◇ ACM Student Membership 2010 – present
  - ◇ Bilkent IEEE Computer Society Executive Comitee Vice Chair 2010 – 2011
- TECHNICAL SKILLS
- ◇ Programming Languages and Technologies:  
**Advanced in:** C++, C, MPI, OpenMP  
**Familiar with:** Python, Java SE, C#, .NET, ASP.NET, MATLAB, HTML, Assembly (MIPS and Intel 8051), PHP, Microsoft SQL Server, MySql
- SELECTED PROJECTS
- ◇ Target Tracking by Using Seismic Sensors. Implemented in C++ and Java. 2011 – 2012  
Supervisor: İbrahim Körpeoğlu
  - ◇ ROM-Airlines : A web based staff management and reservation system for airline companies. Implemented in C#, ASP.NET and MySQL. 2011
  - ◇ Dormbook : A web based dorm mate matching system according to personal criteria. Implemented in Java. 2010
  - ◇ Computing dose of I-131 for Treatment of Thyroid Cancer Using Artificial Neural Network. Implemented in C++, 2005 – 2006  
Supervisor: Mustafa İnceoğlu, Hasan Korkmaz