

## **EDUCATION**

- ❖ **Koç University, Graduate School of Sciences and Engineering**, İstanbul, Turkey **2016 - Present**  
**Master of Science in Computer Science and Engineering**, GPA 3.68/4.00
- ❖ **Koç University, College of Engineering**, İstanbul, Turkey **2010 - 2016**  
**Bachelor of Science in Computer Engineering: Double Major in Industrial Engineering,**  
**Track Certificate Program in Software Engineering**, GPA 3.18/4.00, Comp. Eng. Core GPA 3.69/4.00

## **EXPERIENCE**

- Koç University ParCoreLab**, Research Assistant, İstanbul, Turkey **June 2015 - Present**
  - Implemented TiDA in C++, tiling based multi-threaded programming model for increasing cache performance with data locality and managing parallelism. TiDA achieves up to 2.10x speedup over OpenMP for simple kernels and resulted in publication at ISC'16.
  - Designed and implemented TiDA-acc. TiDA-acc is a tiling based asynchronous GPU programming model which hides transfer latency between CPU and GPU, handles cases where there is no sufficient GPU memory, abstracts GPU programming requirements, and published at ICPP'17.
  - Implemented SMC, a combustion simulation consisting of approximately 10,000 lines of code, with TiDA-acc and presented an article as well as a poster about the study at BAŞARIM'17.
  - Currently developing tiling based asynchronous multi-process multi-GPU execution model.
- Koç University**, Teaching Assistant, İstanbul, Turkey **Sept 2016 – Present**
  - Assisted in teaching, supervision and assessment of Computer Architecture, Operating Systems and Parallel Programming courses, and received Teaching Assistant Training Certificate.
- Lawrence Berkeley National Laboratory**, Affiliate, Berkeley, CA, US **July - Sept 2016**
  - Studied existing GPU execution models and SMC implemented with BoxLib, an AMR framework from Berkeley Lab, implemented GPU version of SMC kernels, and collaborated on TiDA-acc design.
- Vestel Research and Development**, Engineering Intern, İstanbul, Turkey **Aug 2015**
  - Implemented three proof of concept applications for Android platform.
- Netaş Telecommunication**, Engineering Intern, İstanbul, Turkey **June - Aug 2014**
  - Analyzed and configured static code analysis tools (PMD, FindBugs and Checkstyle) which are integrated to continuous delivery project.

## **PUBLICATIONS**

### **Conference Proceedings**

- **B. Bastem**, D. Unat, W. Zhang, A. Almgren, J. Shalf, "Overlapping Data Transfers with Computation on GPU with Tiles", International Conference on Parallel Processing (ICPP), Bristol, UK, August 2017
- D. Unat, T. Nguyen, W. Zhang, N. Farooqi, **B. Bastem**, G. Michelogiannakis, A. Almgren, J. Shalf, "TiDA: High-Level Programming Abstractions for Data Locality Management", International Supercomputing Conference (ISC), Frankfurt, Germany, June 2016

## **HONORS AND AWARDS**

- Research Project Scholarship Recipient, Prof. Didem Unat through TÜBİTAK **2016 - Present**
- Half Merit Scholarship Recipient, Koç University, İstanbul, Turkey **2010 - 2016**
- Second Best Senior Project Award, Koç University, İstanbul, Turkey **2016**
- Dean's Honor Roll, Koç University, İstanbul, Turkey **Fall 2014, Fall 2015, Spring 2016**
- Vehbi Koç Scholar, Koç University, İstanbul, Turkey **Spring 2014, Spring 2015**

## **ACTIVITIES**

- Volunteered in organization of BAŞARIM'17, Turkey's National HPC Conference.
- Coordinated and participated in workshops while a member of Koç University Computer Club.
- Participated in BusinessPort seminars and career talks with top executives of reputable companies while a member of Koç University Marketing Club.

## **SKILLS**

- Language:** Turkish-Native  
English-Advanced
  - IELTS Academic: 7
  - KAPLAN International Certificate of Achievement, New York City, NY, US **Summer 2012**
- Computer:** - C, C++, Java, Julia, Objective-C, SQL, HTML, PHP, MATLAB - Pthreads, OpenMP, MPI, CUDA, OpenACC, Knet, OpenCV, OpenGL - Linux, Android, iOS