UMUT KAYA

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EDUCATION

2020 - today **Ghent University**
Ph.D. Candidate, Department of Data Analysis and Mathematical Modelling, Research Unit BIOMATH and KERMIT

2013 - 2015 **Swiss Federal Institute of Technology- Zurich (ETH-Z)**
M.Sc. Physics, CGPA 5.13/6.00

2009 - 2013 **Middle East Technical University (METU)**
B.Sc. Physics, CGPA 3.94/4.00

2009 - 2013 **Middle East Technical University (METU)**
B.Sc. Electrical and Electronics Engineering CGPA 3.95/4.00

2004 - 2009 **Kadikoy Anatolian High School, Istanbul**
Math-Science Track, 93/100

WORK EXPERIENCE

09/2020 – today **DATA SCIENTIST | PROCESS DATA EXPERT**
Daiichi-Sankyo Europe GmbH, Munich

- Conducting a joined PhD project with the Ghent University on "Surrogate Modeling of CFD Simulation of Bioprocesses using Machine Learning"

09/2018 – 09/2020 **EXPERT INDUSTRY 4.0 /IOT**
Daiichi-Sankyo Europe GmbH, Munich

- Identified, designed, tested and implemented IoT and Data Analytics projects as a Task Force Industry 4.0 member
- Developed a model in **R** and **Statistica** for monitoring a Production Process, created interactive data visualizations in **Spotfire**
- Developed a data analysis solution for Pharmaceutical Development departments of DS-Europe and DS-Tokyo which automatically identifies relations among experimental datasets using **R**, **Plotly**, **Azure SQL** and **PowerBI**
- Developed an OCR solution using **Python, Qt** and **Azure Cognitive Services** for an in-process-control use-case
- Designed and implemented an IoT solution on **Thingworx** for a condition monitoring project

09/2017 – 09/2018 **PROJECT SUPPORT**
Daiichi-Sankyo Europe GmbH, Munich

- Initiation, planning and execution of Industry 4.0 projects

03/2016 – 03/2017 **Co-CEO**
SIRCA Glass and Machinery Industry Ltd. Co., Istanbul

- Developed the business model prior to the establishment
- Managed the company and advised to the r&d team
- Rapidly acquired 30% of the market share within a year

09/2015 - 02/2016 **TEACHING ASSISTANT**
TUM, Mathematics Department

- Lectured problem-solving classes in Functional Analysis

06/2011 - 07/2011 **SUMMER INTERN**
Space Technologies Research Institute
The Scientific and Technological Research Council of Turkey (TUBITAK)

- In a project named "Electric Propulsion Applications Research and Hall Thruster Development", lifetime estimation of a space thruster is made; **PIC simulations** (Particle in Cell)

SCIENTIFIC EXPERIENCE

06/2015 **INTERNATIONAL ASSOCIATION OF PHYSICS STUDENT EVENT**
L'Aquila, Italy

- Gave a talk on 2nd Law & Information Theory

09/2014 - 07/2015 **MASTER'S THESIS**
ETH-Zürich, Quantum Informatıon Group of Prof. Renner
Title: Investigation of the Second Laws in the Catalytic Coherence Setup

- Conducted theoretical research on the fundamental Second Law relations in quantum systems
- Used **semi-definite programming** in **MATLAB** to solve a simple **convex optimization** problem involved

02/2014 - 09/2014 **SEMESTER PROJECT**
ETH-Zürich, Quantum Information Group of Prof. Renner
Title: Randomness from 4-Party Distributions via Bell Violation.

- Conducted theoretical research on Device Independent approach to Quantum Information Theory

09/2012 - 06/2013 **SENIOR ENGINEERING DESIGN PROJECT**
METU, Electrical and Electronics Engineering Department
Title: An Aid for Disabled. Finding way through a wearable wireless camera with random placed predetermined obstacles.

- Within a team of five, a software written in **C++** for real-time **image processing** (using **openCV** library), which gives voice commands to the user according to the path finding algorithm
- Awarded with the Senior Design Project Award

23 - 26/07/2012 **SUMMER SCHOOL ON CONDENSED MATTER PHYSICS**
Princeton University, Physics Department, New Jersey

06/2012 - 08/2012 **SUMMER RESEARCH**
Princeton University, Quantum Optics Group of Prof. Hakan Türeci

- Wrote a **C** code for a **simulator** to solve quantum optical systems

AWARDS AND HONOURS

09/2016 **DAAD Research Grant**

- Offered for doctoral studies at TUM. Turned down due to my business endeavor

2012 Spring **Senior Engineering Design Project Award**

2009-2012 **Dean's High Honour List (6 semesters)**

2009-2012 **Doc. Dr. Bülent Kerim Altay Award (4 semesters)**

06/2009 **National Exam (University Entrance Exam, OSS)**

- Ranked in top 100 out of 1 million participants, awarded with a study grant

06/2009 **Honour Award for High School Degree (3rd Place)**

LANGUAGES

Turkish	Native
English	Fluent, TOEFL 110/120
German	B2.2

COMPUTER SKILLS & EXAMS

Coding	Python, R, Matlab, C, Octave
Data Analytics	Statistica, Spotfire, PowerBI, SQL, QlikSense, QlikView
Office	LaTeX, SharePoint, VBA in Microsoft Office
OS	Windows, Ubuntu
Exams	GRE Quantitative 168/170, Physics 930

EXTRA-CURRICULAR

Music	Novice Flute Player
Sailing	Have the certificate of competence for yachting