

# Mustafa Semih Sadak, PhD

*İstanbul, TÜRKİYE*

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## Personal Profile

I am Mustafa Semih Sadak, an experienced software developer with over a decade of expertise in designing, developing, and delivering high-quality software applications using Java, Python and C++. Throughout my career, I have had the privilege of leading teams and projects, enabling me to hone my skills in project management, leadership, and communication. My passion lies in scientific and technological projects, and I have a deep interest in various fields such as Biometrics, Image&Signal Processing, Computer Vision, Signature Verification, Pattern Recognition, Software Engineering and Object Oriented Design. Should you require any assistance in these fields, please do not hesitate to contact me.

## Education

### Yıldız Technical University

*İstanbul, TÜRKİYE*

Ph.D. in Electronics and Communication Engineering

*2013 - 2022*

- **Thesis Title:** Fusion of Dynamic and Static Features for Handwritten Signature Verification
- **Thesis Advisor:** Prof. Nihan Kahraman
- **Thesis Co-Advisor:** Dr. Umut Uludağ
- **Courses:** Computer Vision, Object Oriented Design and Modeling, Software Quality and Test Techniques, Signal and Image Processing for Remote Sensing, Machine Learning, Advanced Signal Processing, Data Mining and Knowledge Discovery, Optical Pattern Recognition, Cognitive Aspects of Natural Language Processing, Two Dimensional Signal&Image Processing, Statistical Signal Processing, Microwave 1, Electromagnetic Wave Theory, Signals and Systems, Probability Theory

### Yıldız Technical University

*İstanbul, TÜRKİYE*

M.S. in Mathematical Engineering

*2009 - 2011*

- **Thesis Title:** Performance Comparison of Numerical Algorithms Used in Solving Engineering Problems
- **Thesis Advisor:** Prof. Hülya Şahintürk
- **Courses:** Mathematical Programming, Job Sequencing and Scheduling, Project Management Systems, Supply Chain and Logistics Management, Special Topics in Operations Research, Introduction to Graph Theory, Matrix Analysis, Image Compression Methods and Standarts

### Yıldız Technical University

*İstanbul, TÜRKİYE*

B.S. in Mathematical Engineering

*2004 - 2009*

- Foreign Language Preparation (Two semesters)
- **Courses:** Programming Languages I-II, Introduction to Computer Programming, Hardware of PC, Algorithms and Data Structures, Computer Design, Object Oriented Programming, Data Management and File Structures, Image Processing, Theory of Games, Linear Programming, Statistics, Optimization Techniques, Time Series Analysis, Introduction to Control Theory, Operational Research, Finite Element Methods, Mechanics of Fluids, Numerical Analysis, Partial Differential Equations, Complex Analysis, Dynamics, Materials, Statics and Strength of Materials, Linear Algebra, Mathematical Logic, ...

## Work Experience

### TÜBİTAK (The Scientific and Technological Research Council of Turkey)

*Kocaeli, TÜRKİYE*

Project Manager/Senior Software Engineer

*May 2017 - present*

- Lead a team of six engineers to manage a project comprising of roster, distance learning, and personnel managing systems for air traffic controllers, ensuring successful delivery through effective collaboration and project management.
- Participated in all phases of the project, including requirement gathering, analysis, design, planning, development, unit testing, managing, monitoring, reporting, and delivery, utilizing agile methodology and interim evaluations from customers.
- Utilized various technologies such as JSF, Primefaces, Spring Boot, Java, Wildfly, MySQL, JavaScript, JQuery, Html, and CSS in the development of the project.
- Employed various tools including Bitbucket, Confluence, Jira, Sonarqube, Jenkins, Jmeter, and Acunetix throughout the project duration.

### TÜBİTAK (The Scientific and Technological Research Council of Turkey)

*Kocaeli, TÜRKİYE*

Senior Software Engineer

*June 2014 - May 2017*

- Software development for distributed system architecture.
- Developed a performance evaluation tool using Java, RTI, Hla, JasperReports, MySQL, and LuciadMap to evaluate the instantaneous activities of air traffic controller candidates. By seamlessly integrating with all modules of the air traffic management simulation system, the tool enabled real-time monitoring and evaluation of candidates' activities.
- Used IBM ClearCase for version control, IBM Clearquest for issue tracking, and Telelogic Doors for requirement management.
- Tested software for bugs and performance, fixed bugs and documented processes to increase efficiency.

## Software Engineer

March 2011 - June 2014

- Developed an aptitude test tool for hiring air traffic controllers, and a personnel management system and online exam system for rate exams of air traffic controllers using Java, JSF, Primefaces, Seam Framework, Jboss, MySQL, Javascript, JQuery, Html, and CSS.
- Utilized tools such as SVN, IBM Jazz, Confluence, Sonarqube, Jenkins, Jmeter, and Acunetix.
- Involved in design, development, unit testing, reporting, and delivering phases.

**CETETCH-ADTECH**

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## Software Engineer

May 2010 - March 2011

- Developed web app using Java EE, JSF, Primefaces and HTML/CSS that allowed call-center employees to manage issues.
- Developed software applications for Mobile Service Delivery Platform (VAS&CMS Infrastructure) in SOA concept using Java EE.
- Tested software for bugs and performance, fixed bugs and documented processes to increase efficiency.

## Publications

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### JOURNAL ARTICLES

Dynamic and static feature fusion for increased accuracy in signature verification

Mustafa Semih Sadak, Nihan Kahraman, Umut Uludağ

Signal Processing: Image Communication 108 (2022) p. 116823. Elsevier, 2022

### CONFERENCE PROCEEDINGS

Handwritten signature verification system using sound as a feature

Mustafa Semih Sadak, Nihan Kahraman, Umut Uludag

2020 43rd International Conference on Telecommunications and Signal Processing (TSP), 2020

Developing an Electronic Examination System for Aptitude Measurement and Application to Air Traffic Controller Selection” (In Turkish)

Abdulkerim Öncü, Ömer Faruk Arar, Samet Akpınar, Özkan Yalçın, Ümit Mert, Mustafa Semih Sadak, Gürol Toker, Suat Yildirim, Ugur Öztürk

UYMS, 2014

## Skills

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**Programming** Java, Python (Pandas, PyTorch, NumPy, Scikit-learn, Keras, etc.), C/C++, HTML/CSS, JavaScript, SQL.**Miscellaneous** Linux, Shell (Bash/Zsh),  $\LaTeX$ (Overleaf/R Markdown), MS Office, MS Project, SVN, Git, Bitbucket, Jira, Confluence.**Soft Skills** Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

## Interests

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**Research** Biometrics, Image&Signal Processing, Computer Vision, Signature Verification, Pattern Recognition, Software Engineering and Object Oriented Design.**Novels** I am an enthusiastic reader of novels, and enjoy exploring various genres and authors in my free time to expand my knowledge and imagination.**Piano** In my free time, I enjoy playing the piano and have been studying and practicing classical pieces for the past five years.**Horse Riding** I am also an avid horse rider, and enjoy spending weekends at the riding clubs where I have been taking lessons and honing my riding skills for the past two years.**Basketball** I also enjoy playing basketball as a way to stay active and engage in team sports, and regularly participate in pick-up games with friends on weekends.**Travel** I have a passion for travel and enjoy exploring new cultures and destinations, having visited over ten countries in the past five years.

## References

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**Prof. Nihan Kahraman** nicoskun@yildiz.edu.tr**Dr. Umut Uludağ** umut.uludag@tubitak.gov.tr