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PERSONAL INFORMATION

Birth Date: 02.09.1981

Marital Status: Single

Address: Zümrütevler Mahallesi Nish Adalar Sitesi B 35 D 12, 34852 MALTEPE /ISTANBUL TURKEY

Military Service: Done (12.11.2008-16.05.2009)

SPECIALITIES and PROFESSIONAL INTERESTS

- Telecommunications oriented data analysis and software development
- Self-Optimizing Networks (SON) and AI/ML for mobile communications
- Radio protocols and mobile network optimization methods
- Embedded programming
- Web and mobile app development

EDUCATION

2003-2006: Rheinisch-Westfälische Technische Hochschule Aachen (RWTH Aachen), Germany. MSc. Telecommunications Engineering. CGPA: 1.5 (According to German Education system¹)

Master Thesis Topic: Opportunistic Beam-forming in Multi-user MIMO Systems with an application to 3G mobile networks (UMTS/HSDPA)

1999-2003: Middle East Technical University (METU) Ankara, Turkey. BSc. Electrical & Electronics Engineering. CGPA: 3.81/4.00

1992-1999: Lüleburgaz Anatolian High School

WORK EXPERIENCE

10.2017-present: TURKCELL, Istanbul / Expert Radio Network Optimization Engineer

- Management and maintenance of Turkcell's 27 SON modules. Focusing on potential utilization of appropriate machine learning methods as an additional SON module prototype
- Working on a mobile network monitoring, analysis and troubleshooting platform that is connected to Turkcell's network quality monitoring/management databases. Implemented Python data analysis packages for "VoLTE Retainability" and "2G/3G CS Call Retainability" and working on Accessibility & Integrity extensions

¹ According to German Education System 1.0 is the highest mark and 5.0 is the lowest mark.

Grade Evaluation: 1.0-1.5: very good, 1.6-2.5: good, 2.6-3.5: adequate, 3.6-4.0: satisfactory, 4.1-5.0: unsatisfactory.

05.2013-10.2017: TURKCELL, Istanbul / Senior Field Quality Assurance Engineer

- Designed and implemented a reporting platform for crowd sourcing data (e.g. OOKLA SpeedTest®) The platform takes raw inputs, cleans the data, writes it to databases and visualizes the results via reporting templates
 - This platform provides robust and clean information in Turkcell since 2016 and led to a marketing campaign and several network optimization actions. Platform's motivation and its approach to crowd-sourcing took a lot of attention when it was presented in "TELCO DATA Analytics Conference, Madrid" in 2017.
- Designed and developed a web based geographical reporting and analysis platform to monitor and report network KPIs coming from autonomous drive test modules
 - This self-initiated project was given "2014 TURKCELL CXO AWARD"
- Also designed and developed
 - a database management, geographical data analysis and automatic reporting tool (fqaery) for efficient analysis and reporting of network quality data in .NET (C#)
 - a customized GPS coordinate-to-grid algorithm which is %90 faster than traditional GIS tools
 - C# library to convert Turkish Lambert Conformal coordinates into spherical coordinates directly from Lambert Conformal Conic Projection formulae
- Planning and management of country-wide Turkcell 3G MTU drive-test benchmarking project reporting part of which was done fully scripted via the fqaery tool mentioned above

07.2010-05.2013: PLANO Engineering, Istanbul / Senior Radio Network Opt. Engineer, SW Developer

Principle investigator and technical project manager of "geo-location based 3G network optimization services" of PLANO (an R&D project funded by TUBITAK- The Scientific And Technological Research Council Of Turkey). Also was responsible from technical contribution and management of RF optimization software projects for 3G mobile networks with 7 reporting personnel

05.2009-07.2010: Çukurova Holding Data Processing Services Inc. (HOBIM), ISTANBUL / Telecommunications Engineer, SW Developer

Worked in smart card production team and was responsible from production cycle of SIM and USIM cards for various GSM operators. Developed a Data Generator Randomness Test Suite according to "GSMA SAS (Security Accreditation Scheme) Certificate" specifications in Java

11.2006-07.2008: Ericsson GmbH, BMTP Prototype Unit, Nuremberg, Germany / Embedded SW Developer

Designed, modelled, implemented and tested embedded software (C) and took part in software maintenance for Ericsson WCDMA Mobile Platforms. Designed and implemented HSUPA E-HICH/E-RGCH control channels handler used in 3G Ericsson mobile phones

04.2006-10.2006: Institute of Integrated Signal Processing Systems (ISS) RWTH Aachen University, Aachen, Germany – Thesis Student

Worked on a master thesis about Opportunistic Beam Forming for MIMO Systems and its possible application to increase throughput in HSPA networks. (This was an extension of a previous joint project between Siemens and ISS which was finished for MISO case and submitted to Siemens)

09.2005-02.2006: Alcatel-Lucent Deutschland AG, Bell Labs, Stuttgart, Germany – Part-Time

Worked as a fulltime student worker on performance evaluation and testing of 3G prototype of Alcatel. Main task was physical layer measurements and maintenance of laboratory 3G prototype

03.2005-08.2005: Texas Instruments GmbH, Munich, Germany - Intern

Worked as a full-time intern at the broadband communications group (BCG) of Texas Instruments on TI's ADSL modems and central offices. Main task was C and assembler based embedded software programming for ADSL. Developed C and C++ software to upgrade TI's real time data capture tool from ADSL to ADSL2+

03.2004-02.2005: Institute of Communication Systems and Data Processing, RWTH Aachen, Germany – Part-Time

Worked as a part time student worker (HIWI) on a research project about "Phoneme based low bit speech coding". Main task was implementation of a text based, speaker independent speech compression algorithm

TECHNICAL SKILLS

Telecommunications:

- Radio Interface Protocols, Optimization, KPI analysis for 3G, 4G mobile networks (Proficient)
- Performance Measurement and Benchmarking methods for 3G, 4G mobile networks (Proficient)
- Self-Optimization algorithms and AI/ML methods for 3G, 4G mobile networks
- Nb-Iot, Cat-M | 3G, 4G core network | 5G Radio Interface fundamentals

Software Development:

- SQL (Proficient) Hands on experience on Oracle, MS SQL, OLAP and tools such as Toad, MS SQL Studio
- Python (Proficient) Hands on experience in several data analysis libraries such as pandas, numpy, matplotlib, seaborn, shapely, gopandas and folium etc.
- .NET (C#)
- C/C++
- Javascript, JQuery, HTML, CSS
- Mobile App Development (Hands on experience on Cordova, PhoneGap, Framework7)
- Git, Linux Terminal, Bash Scripting, Cygwin, SSH
- MATLAB

Language:

- English (Speaking: Fluent, Reading: Advanced, Writing: Advanced)
- German (Speaking: Fluent, Reading: Advanced, Writing: Intermediate)

HONOURS & AWARDS

2014: Turkcell CXO Award

This award was given by Turkcell after designing and implementing an online field quality monitoring platform onto ASCOM's Tems Automatic solution. (for details please refer to work experience)

2004: "Texas Instruments Prize of 2004 for the Best DSP Programmer Lab Project." at Institute for Integrated Signal Processing Systems (ISS), RWTH-Aachen

This award was given by Texas Instruments after designing the most efficient digital receiver software and implementing it using Code Composer Studio (C based DSP software development environment)

09.2003-02.2006: Held TEV (Turkish Education Foundation) & DAAD (German Academic Exchange Service) Scholarship during the graduate education at RWTH-Aachen, Germany

2000-2001: Three times "Kerim Altay Award" Winner

This award is given to students who have a GPA of 4.00/4.00 for that semester at METU Department of EEE

1999-2003: 7 High Honor Student Degrees at METU

PANELS and CONFERENCES

01.11.2017: Speaker at TELCO Data Analytics and AI Europe, London

Presentation Topic: Mining Crowd-Sourced Smartphone Data for Network Quality Analysis

28.06.2017: Webinar Speaker at Telco Innovation Digital Week by Broadband World Forum

Presentation Topic: Network Intelligence – Using Data Analytics & AI to Improve Network Performance & Customer Satisfaction

24.10.2017: Speaker at TELCO Data Analytics and AI Europe, Madrid

Presentation Topic: Mining Crowd-Sourced Smartphone Data for Network Quality Analysis

29.05.2012: Speaker at 6th Annual Mobile Network Optimization Summit, Dubai

Presentation Topic: Geo-location Based Optimization and its Potentials

08.05.2012: Speaker at IQPC Mobile Networking Optimization Conference, Johannesburg

Presentation Topic: Geo-location Based Optimization and its Potentials for QoE

03.11.2011: Panel Speaker at “14th Annual Mobile Optimization Conference” Amsterdam

Panel Topic: Improving Optimization Techniques and Introducing New Technologies to Increase Network Efficiency and Meet the Challenge of Next Generation Mobile Broadband Services

VOLUNTEER EXPERIENCE

05.2015 – Present: Volunteer member of TSAG (Turkcell Social Activity Group)

Planning and organization of several hobby work-shops, social trips and events for Turkcell employees.

03.2011 – 06.2011: External Lecturer of "Modern Communication Technologies" at Istanbul University Communication Faculty, Radio TV Cinema Department for one complete semester

HOBBIES and INTERESTS

Sports Journalism: Prepared German “Bundesliga” football league reports for the weekly football magazine “Taktik” of the Turkish national newspaper “Milliyet” from 2006/07 to 2013/14 seasons. Recent articles can be found at: <http://www.milliyet.com.tr/erdem-koc/tumyazilar/skorer/>

Drawing and Painting: Some of my current work can be seen at <https://www.instagram.com/winterdem/>

REFERENCE

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