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Personal Information

Nationality: Turkish
Birth Date: 16.10.1983
Gender: Female

Current Status

- Looking for the appropriate Android Developer position that fits on my skills. I am eager to work on any vacancy for both of these areas. I am also interested with IOS side, having a bit experience and Neural Networks in Machine Learning.
- I left the cellular telecommunication sector to improve my skills on Mobile App software development and latest technologies; Machine Learning, and Computer Vision. I previously worked on video and image processing technics, familiar video codec structures - H264,H265, Image Prediction and Transform algorithms, Neural Networks Training in Keras, Tensorflow. I have been working on software development side: C, C++, ffmpeg, SDL2, Python, OpenCV, Android and IOS.

Experience

Android & IOS Product Development / R&D Engineer- Mediate Inc - June 2020 - Recent

Mediate is a research and innovation lab working at the intersection of Computer Vision and Augmented Reality, collaboration with MIT in Boston. <https://www.supersense.app/community>. Their commercial mobile app Supersense is the simplest scanner application for the blind and the visually impaired people. And these below were the all work done by myself:

- Adding new features to Supersense mobile app on Android side as an R&D project in 5 weeks. These features were Sign Detection, Face Identification and Custom Object Detection. Kotlin language is used. Google Firebase ML server, Microsoft's Azure Cognitive Services APIs and Python Tensorflow are used as machine learning APIs and training the data. Network connection architectures are written without using ready functions. All UI design is made by me. And for Machine learning training side all data for most used Signs in our life are collected and then trained in Python.
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- On IOS side of Supersense mobile app, Siri Integration is done. By using Swift and NSUserActivity, user can use Siri to make work any feature on this application when the application is completely off.
 - Receipt Reader is added to IOS side of Supersense. Also this app has been designed in RxSwift. Azure's Form Recognizer REST API is used in Swift. There are some difficulties about consecutive async network requests. They were made sync.
 - Another IOS job is Supersense's 'document-read' feature is tested whether it works on the right way. Some bugs are detected about the Firebase text recognition code and notified to the related developers.

Freelance Projects — Android Development - June 2018 - June 2020

-Build two Shopping mobile Apps

These apps include a complicated JSON file, MVVM architecture is used, many horizontal recyclerviews, swipe to refresh feature, snappable effects while scrolling and Navigation Architect Component is used.

-Give Support to Markakod company for their Ipragaz mobile app. Their problem on the survey part of the app is solved.

- A GPS Family tracker app is partially completed in Android using Kotlin.

- Build an Android Youtube Player in Kotlin:

With this Api, Youtube video streaming statistics are recorded and analysed on bad and good network conditions.

- Build a Film Archive and Video Player Application in Kotlin

- Scope of technologies and programming languages I'm using during Android development process:

Kotlin, Android, XML, JAVA, Gradle, JSON, Android Jetpack Architecture Components, DataBinding, Android Architecture Patterns MVC, MVP, MVVM

- Data Analysis with Pandas, Python

- Image processing using Numpy Arrays in Python



- **Webcam Motion Detector using Python and OpenCV.**
- **Build an Ffmpeg Player using C:** With the latest ffmpeg version, developing an ffmpeg player which performs decoding and play the avi, mpg and wmv formats.
- **Partially write H.264/AVC codec in C++**
- **Create a shell script comparing two video files and giving the degradation:** Original and degraded video files are compared and frame based SSIM and PSNR changes are given using ffmpeg CLI.

Experience

Senior Service Quality Assurance Engineer, TURKCELL, Turkey — April 2010 - June 2018

1- Video Streaming Analysis:

- Measure video streaming performance of top Video services used by Turkcell subscribers : TV Plus, Youtube, Netflix, Periscope, Snapchat, Skype Video Call and etc. using specific measurement tools and Wireshark.
- Develop a special Non-Reference Video MOS algorithm for HTTP based Video services based on ITU-T's 1203 standard. ITU-T's model mostly focuses on fps and resolution effect. With my formula, I increased the weight of other factors like chunk streaming duration (bitrate) and derived frame rate metric from packet loss of that chunk using Wireshark analysis. Detailed TCP Analysis from Wireshark and IOS/Android Client log analysis within Python scripting were used for detailed analysis. My formula is already being used by Turkcell for their HLS supported OTT service, "TV Plus" , detecting video degradations and risky places for stalling on field tests. Work on the effect of Round-Trip-Time parameter and find out the risky threshold for video stallings and video start-up delays.
- TEACUP analysis and Python scripting is used on some cases of Turkcell TV Plus OTT service for TCP analysis.
- Android and IOS Smartphone Video streaming models and their differentiated packet behaviours on **Netflix** and **other OTTs** were studied.
- As an instructor, Give workshops to Network Groups titled " Video Streaming Techniques and Smartphone Effect " in Turkcell.



2- Big Data Analysis from Crowdsourcing Tools:

- Convert the 10 millions of raw data columns to a meaningful format per day; clean the messy data and aggregate the necessary columns from different tables to create new tables reflecting real user experience. These statistics are gathered from mobile phones approved by mobile users via Veloxity and Ookla data sources which work on the background of the phone.
- For the above data Analysis, **Create data transform scripts in Python**, load the aggregated and clean data into **MSSQL Server Management Studio database** and create different tables and views using **MSSQL and Amazon Redshift (AWS) SQL**. Data estimation is done for video service, user behavior, specific location and time-based data to predict mobile user's short-term behavior. For BI Analytics and geolocation, I used **Tableau** and **Microsoft Report Builder** to create map and graph reports.

3- Cellular Network Responsibilities and Smartlab Activities:

- Perform analysis of periodical VoLTE / LTE /3G tests before and after a RAN/ CN network feature on the field measuring subscriber QoE and Radio KPIs. The related areas extend in a wide spectrum from VoWifi, VoLTE, LTE, 3G, 2G.
- **A mathematical way of Smartphone Scoring System** were created to be used on our reportings to compare among all tested smartphones on equal conditions.
- Finalized special case study “**Network Affects on Smartphone Battery Performance**”.

Experience

RF Planning and Optimization Engineer, TURKCELL, Istanbul Turkey — 2010-2010

- Responsible from assigned districts for 2G and 3G Planning and Optimization. Follow up the 2G & 3G KPIs and provide optimization solutions for problematic cells in cell design structure. Perform drive tests on the problematic area and analyze the test results, then take the actions as a solution.
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Experience

RF Engineer for Networks for 2G Vodafone Project in Turkey, Motorola — 2008–2009

- Ownership of the definite clusters and their RF Design prediction in Atoll to provide coverage thresholds in 2G Vodafone Network. Perform optimization, dimensioning and drive test activities using TEMS and Motorola BTS tools.

Experience

Core Network Data Quality Assurance Engineer, Avea, Turkey, 2006–2008

- Follow up and provide the continuity of the data flow which includes all counters from Core Network Nodes and perform their insert as aggregated to database layers. Create new CoreNetwork KPIs from the existent counters.
- **Write Unix Shell scripts** providing running the data scripts automatically and convert the counter data into required formats. Implement new reports and views using **MS SQL** in **Oracle database** so that all network departments are able to access these reports and make their work from a common interface.

Skills:

- **Software Development:** Kotlin, Swift, Tensorflow, C, C++ Object-Oriented Design, Python, Android Studio, node.js, JSON, Docker
 - **Data Analysis:** MS SQL Server Management Studio, MS Report Builder, Amazon Redshift, Tableau, Pandas
 - **Scripting:** Shell and Python Scripting
 - **Packet Analysis and Tools:** Wireshark, TCP/RTP/RTMP/SIP Packet Analysis, WebRTC protocol, TEACUP
 - **Video Codecs:** H264, H265, VP9, AV1 Video Coding Techniques, MPEG-2 Transport System
 - **Image Processing Tools:** SDL2, ffmpeg, OpenCV, Numpy
 - Skilled in mobile device debug tools (ADB, Eclipse, LogCat)
 - CDN structures.
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Education

Istanbul Technical University, BSc Telecommunication Engineering — Turkey, 2001-2005:

- B.Sc Project: 'A Short Review of Engineering Applications Covering the Entire Electromagnetic Spectrum' Research project
- Interested Areas: Coding and Noise Filtering Techniques, 3G Communication

Konya Meram Science High School, Turkey, 1998-2001:

- Win the University Exam having a degree in the first 1000 people among 1.5 million entrance

Konya Meram Anatolian High School, Turkey, 1994 - 1998:

- Professional English Learning

Awards:

- Turkcell CXO Award for Measuring Rf environment and vertical coverage of LTE and 3G networks using drone on 3rd Bosphorus Bridge Construction
- APPRECIATION AWARD FOR THE BEST EFFORT in 2009 / in Motorola RF Design Group

References:

References will be provided upon requests
