Furkan K. **Yıldırım**

COMPUTER SCIENCE & INDUSTIRAL ENGINEERING · SENIOR STUDENT

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Education

Sabancı University *İstanbul, Turkey*

B.S. IN COMPUTER SCIENCE & INDUSTRIAL ENGINEERING (DOUBLE MAJOR) - BUSINESS ANALYTICS (MINOR)   *Sep. 2019 - Expected: Jun. 2024*

- **Computer Science Featured Courses:** Data Structures & Algorithms, Software Engineering, Programming Languages, Operating Systems, Database Systems, Network Systems, Mobile Application Development, Data Visualization & Analysis, Machine Learning, Logic & Digital System Design, Cybersecurity Practices and Applications.
- **Industrial Engineering Featured Courses:** Operation Research, Business Strategy, Simulations, Decision Economics, Information Systems, Logistic System Planing & Design, Decision Making Under Uncertainty, Management Information Systems.

Skills

Front-end	React, React Native, Flutter, HTML5, CSS
Back-end	FastAPI, Flask, ASP.NET, REST API, Firebase
Programming	Python, C++, C#, JavaScript, Dart, SQL, Verilog, Rockwell Arena
Other	Discrete Event Simulation, Vehicle Routing Problems, Software Architecture & Design, Mobile Application Development, Web Development, Agile Software Development, Object Oriented Programming, Web crawling, CI & CD

Professional Experience

Optiviam *Istanbul, Turkey*

FOUNDER   *Aug. 2023 - Present*

- Developed a Vehicle Routing System Software that uses mathematical models and heuristic approaches to solve companies' complex logistics problems.
- Worked with Sabancı University and Sabancı University SUCool (Start-Up Company League) while creating this system.
- Used Python's FastAPI, C#'s ASP.NET Web API, and JavaScript's React and React Native Frameworks to develop this software. Also performed CI&CD operations using Docker and Kubernetes on Google Cloud and AWS services.

Getir *Istanbul, Turkey*

ALGORITHM DEVELOPER   *Nov. 2022 - Nov. 2023*

- Took role in the improvement and development of micro-services that receive 1.2M orders per day by using Python.
- Participated in the development of business logic algorithms to deliver orders in the most efficient way in GetirMarket domain.
- Maintained in the development of Discrete Event Simulation to optimizing test and run-time performances of the algorithms by using Python, FastAPI, Numpy and Pandas in GetirMarket domain.
- Worked on visualizing and analyzing data results from VROOM, OSRM and New Relic on the Getir Market platform using Python.

ALGORITHM DEVELOPER INTERN   *Apr. 2022 - Nov. 2022*

- Worked on optimization test and run-time performances of OSRM and VROOM results with Discrete Event Simulation on Getir Market platform using Python libraries FastAPI, Numpy and Pandas.
- Developed unit tests, developed integration tests and refactored code-bases for micro-services of the Getir Market platform using Python.

Sabancı University *Istanbul, Turkey*

LEARNING & TEACHING ASSISTANT   *Oct. 2021 - Jun. 2022*

- Assisted Instructor Gülşen Demiröz on Data Structures Course, gave homework, graded, and helped students on assignments, also held weekly office hours.
- Assisted students with their Python learning through weekly recitation sessions in the Computational Approaching to Problem Solving Course.
- Under the supervision of Prof. İnanç Arın, extracted Turkish texts from PDF images using Python and certain API's with Sabancı University Center of Excellence in Data Analytic.

CRS Software *Istanbul, Turkey*

SOFTWARE ENGINEER INTERN   *Jan. 2022 - Feb. 2022*

- Created and developed an e-commerce platform with .NET using C# language during the internship.
- Gained information on how to do market research and processes of system design.

Hyperlink Digital Library *Istanbul, Turkey*

SOFTWARE ENGINEER   *Jun. 2021 - Jan. 2022*

- Developed a cross-platform mobile application of an e-Book Library with Flutter. Deployed at **Google Play Store** and **App Store** on January'22.
- Helped develop Semantic Search API in an e-Book Library with Python Flask, Redis and MySQL.

Projects

Solving the Multi-layer Thin Films Problem with Optimization Techniques

RESEARCH STUDENT   *Jun. 2023 - Present*

- Under the supervision on Prof. Dr. Burak Kocuk and within the scope of Sabancı PURE program, aimed to optimize the reflectivity of a metallic substrate by carefully selecting and layering dielectric materials, utilizing mixed-integer nonlinear programming techniques using Python and Gurobi Optimizer.

Delivery Route Optimization at E-Bebek Company

TEAM LEADER - ALGORITHM & BACK-END DEVELOPER   *Oct. 2022 - Jun. 2023*

- Under the supervision of Prof. Dr. Bülent Çatay for graduation project, developing an algorithm that, deal with Vehicle Routing Problem (VRP) variant that matches orders with the delivery vehicles in E-Bebek Company and determines visualizes the vehicle routes, with Python.
- As a result of the analyzes made after the developments, it is expected that the cost will be reduced by 20% and 1.2M₺ per year with the routes created using the new model.

Voidture, E-Commerce Platform

LEAD MOBILE APPLICATION DEVELOPER & BACK-END DEVELOPER   *Feb. 2022 - Jun. 2022*

- Developed an e-commerce mobile application for Furniture using Flutter and led the mobile application team.
- Took part in the demo presentation of the application. Used Jira and Bitbucket to maintain the project.
- Worked on the service development part of the application using FastAPI, PostgreSQL, Redis and Docker.

SUprerequisites, Analyzing Prerequisites of Courses of Sabancı University

ALGORITHM & BACK-END DEVELOPER   *Oct. 2021 - Jan. 2022*

- Under the supervision of Prof. Dr. Hüsnü Yenigün, developed an algorithm and a script with Python to collect and analyze the prerequisites of Sabancı University courses. Visualized the analyzed data using JavaScript and Python Flask.

SUchedule, Mobile Application

FULL-STACK DEVELOPER   *Sep. 2021 - Oct. 2021*

- Developed a mobile application (SUchedule) with React Native and back-end service with Python Flask, allowing Sabancı University students to create their schedules with a friendly user interface.
- Deployed the project at **Google Play Store** and **App Store**. Reached 2000+ downloads with 4.9/5 ranks.

WakeGuard, Location Based Alarm Application

MOBILE APPLICATION DEVELOPER   *Jan. 2021 - Feb. 2021*

- Created location tracking and alarm application with React Native and Firebase named WakeGuard and leading the project.
- Deployed the project at **Google Play Store** and **App Store**. Reached 1000+ downloads with 4.8/5 ranks.

Competitions & Honors & Certificates

COMPETITIONS

2022	**ITU ACM Algocomp'22,** Ranked 15th with my team among 300+ teams in the competition which is an algorithm-based coding competition.	*Turkey-Wide*
2021	**Inzva Hackerspace,** Ranked 1st at Sabancı University and 9th on overall with my team among 200+ teams in the competition which is an algorithm-based coding competition.	*Turkey-Wide*

HONORS

2023	**Sakıp Sabancı %100 Encouragement Scholarship,** Awarded for academic achievement	*Turkey-Wide*
2023	**Dean's High Honor List,** Achieving grade more than 3.5 over 4.0.	*Turkey-Wide*
2022	**Sakıp Sabancı %100 Encouragement Scholarship,** Awarded for academic achievement	*Turkey-Wide*
2022	**Dean's High Honor List,** Achieving grade more than 3.5 over 4.0.	*Turkey-Wide*
2021	**Dean's High Honor List,** Achieving grade more than 3.5 over 4.0.	*Turkey-Wide*
2019	**High Success Scholarship,** Ranked 1365th among 1,500,000+ students (0.09 percentile)in National University Entrance Exam (YKS 2019).	*Turkey-Wide*

CERTIFICATES

2023	**Microsoft Power BI - The Practical Guide,**	*Udemy*
2022	**Excel to Access: Intro to Microsoft Access for Excel Users,**	*Udemy*
2022	**EXCEL at Work - Complete MS Excel Mastery Beginner to Pro,**	*Udemy*