

# NAZIR NAYAL

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## EDUCATION

<b>Koç University</b> <i>Bachelor of Science, Computer Engineering Senior.</i> <ul style="list-style-type: none"><li>Full scholarship funded by Al Ghurair Foundation (AGFE).</li></ul>	September 2017 - May 2021 <i>Istanbul, Turkey</i>
<b>Al-Bassel High School for Superiors</b> <i>High School Diploma</i> <ul style="list-style-type: none"><li>Ranked 5<sup>th</sup> in Aleppo and among top 5% in Syria.</li></ul>	September 2013 - June 2016 <i>Aleppo, Syria</i>

## RESEARCH INTERESTS

- Developing and Utilizing Deep Learning models in Computer Vision and in Natural Language Processing.
- Representation Learning for vision and language understanding problems.

## WORK EXPERIENCE

<b>Invent Analytics</b> <i>Software Engineering Intern</i> <ul style="list-style-type: none"><li>Implemented a machine learning forecasting model based on supermarket products sales data.</li></ul>	July 2020 - September 2020 <i>Istanbul, Turkey</i>
<b>Distributed Systems and Reliable Networks Research Laboratory (DISNET)</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>Implemented Proof of Concept for LightChain, and an augmented version of Skip Graph Data Structure.</li></ul>	March 2019 - Present <i>Istanbul, Turkey</i>
<b>Dapper Labs (Based in Vancouver, Canada)</b> <i>Software Engineering Intern</i> <ul style="list-style-type: none"><li>Contributed to the implementation of the first version of the networking layer of Flow Blockchain.</li></ul>	August 2019 – December 2019 <i>Remote</i>
<b>Koç University Office of Learning and Teaching (KOLT)</b> <i>Tutor</i> <ul style="list-style-type: none"><li>Provided weekly individual tutoring for students of Advanced Programming class on a walk-in basis.</li></ul>	February 2019 – June 2019 <i>Istanbul, Turkey</i>

## RELEVANT COURSEWORK

- |                              |                                 |                             |
|------------------------------|---------------------------------|-----------------------------|
| • Intro. to Machine Learning | • Advanced Data Analysis        | • Intro to AI               |
| • Software Engineering       | • Deep Learning for Comp Vision | • Algorithms and Complexity |

## PUBLICATIONS

- Y. Hassanzadeh-Nazarabadi, **N. Nayal**, S. Sameh Hamdan, Ö. Özkasap, and A. Küpçü, “A containerized proof-of-concept implementation of lightchain system,” in ICBC. IEEE, 2020.
- Y. Hassanzadeh-Nazarabadi, **N. Nayal**, S. Sameh Hamdan, A. Utkan Şahin, Ö. Özkasap, and A. Küpçü, ”Demo: Skip Graph Middleware Implementation”, in SRDS 2020.

## ACHIEVEMENTS

<b>Al Ghurair Foundation for Education STEM scholarship Program (AGFE)</b> <i>Recipient</i> <ul style="list-style-type: none"><li>A merit-based award for highly achieving Arab students.</li><li>Admitted among ≈ 100 students out of 15000+ applicants to pursue Computer Engineering at Koç University.</li></ul>	September 2017 - Present <i>Istanbul, Turkey</i>
<b>Vehbi Koç Scholar Award</b> <i>Award Recipient</i> <ul style="list-style-type: none"><li>Received this award for 3 consecutive years for maintaining a semester GPA of 3.5+.</li></ul>	2018 - 2019 - 2020 <i>Istanbul, Turkey</i>
<b>IEEEExtreme 13.0 Programming Contest</b> <i>Contestant</i> <ul style="list-style-type: none"><li>Ranked 67<sup>th</sup> globally and 2<sup>nd</sup> among teams participating from Turkey.</li></ul>	October 2019 <i>Online</i>
<b>Turkish Programming Contest (TPC)</b> <i>Contestant</i> <ul style="list-style-type: none"><li>Represented Koç University and ranked 12<sup>th</sup> teams participating from all over Turkey.</li></ul>	September 2019 <i>Istanbul, Turkey</i>

## SKILLS

- Technical:** Deep Learning, Algorithms & Data Structures, Software Design, Blockchain, Agile Development.
- Programming Languages:** C++, Python, Java, Golang, C, R, Matlab, Javascript.
- Languages:** Arabic (native), English (fluent), French (intermediate), Turkish (intermediate).

## PROJECTS

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### Examination of Attention Mechanism for Visual Feature Encoding (Ongoing)

*Research / Course Project*

- Working on developing a Deep Learning Model that utilizes Attention Mechanism to obtain better feature representations of visual data.

### Sales Forecasting for Walmart Products

*Internship Project*

- Designed A machine learning pipeline that predicts the sales for different products in Walmart.

### Amazon Food Review Sentiment Analysis

*University Course Project*

- Implemented a multi-label classification model to classify the sentiment of food review comments using an LSTM neural network architecture using PyTorch framework.

### File System Memory Allocation Algorithm

*University Course Project*

- Implementation of Contiguous Allocation and Linked Allocation algorithms in C++.

### Air Traffic Control Simulation

*University Course Project*

- A simulation software for an air traffic control using pthreads interface in C++.

### LightChain: Proof of Concept Implementation

*Research Project*

- Implemented POC of LightChain System, a blockchain architecture developed at KU.

### Bricking Bad

*University Course Project*

- A desktop game similar to the famous brick breaking game, but with different rules and features.

## EXTRACURRICULAR ACTIVITIES

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### International Blockchain Olympiad 2020

July 2020

*Participant*

*Online (due to Covid-19)*

- Presented our Proof of Concept implementation of LightChain as part of DISNET Research Team.

### Koç University Programming Championship (KUPC)

January 2020 - Present

*Problem Setter & Chief Judge*

*Istanbul, Turkey*

- KUPC is an ACM-ICPC style programming competition for Koç University students.
- Created and tested problems, and prepared competition system.

### Koç University ACM Student Chapter (KUACM)

May 2019 - August 2020

*Vice President*

*Istanbul, Turkey*

- Managed and organized programs and activities carried out under that chapter's supervision.

### Koç University Algorithms Program (KUAP)

January 2019 - Present

*Founder & Coordinator & Instructor*

*Istanbul, Turkey*

- Created a curriculum that covers basics of problem solving using algorithms and data structures.
- Led discussions and problem solving sessions demonstrating concepts and solutions to problems.

### inzva Algorithmic Competition Winter Camp 2019

January 2019

*Participant & Contestant*

*Istanbul, Turkey*

- Ranked 1<sup>st</sup> in final day contest after a week long intensive training on algorithms and data structures.