Abdurrezak Efe

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EDUCATION

BILKENT UNIVERSITY
MSc in Materials Science and Nanotechnology
2018 - | Ankara, Turkey

BILKENT UNIVERSITY
BS in Computer Science
2014 -2018 | Ankara, Turkey

LINKS

GitLab:// **refe.fb**
Hackerrank: // **Abdurrezak Efe**
Codeforces:// **Markov Blanket**
LinkedIn:// **Abdurrezak Efe**
YouTube:// **Abdurrezzak Efe**
Quora:// **Abdurrezzak-Efe**

COURSEWORK

GRADUATE
Computational Neuroscience
Advanced Quantum Mechanics
Motor and Sensory Systems Neuroscience
Computational Methods for Complex Systems
Self-Assembly and Self-Organization
Nanoscience 1-2
(Teaching Asst.)
Physics 101

UNDERGRADUATE
Algorithms 1-2
Automata Theory
Machine Learning
Bioinformatics Algorithms
Artificial Intelligence

IT SKILLS

CLOUD, BIG DATA:
MapReduce
Google Cloud Platform

PROGRAMMING:
Over 100000 lines:
C++ • Python
Over 5000 lines:
Java • Matlab
Over 1000 lines:
C • LaTex • PHP
Familiar:
Perl • R

EXPERIENCE

METU MODSIMMER | ML Engineering Intern
July 2017 - September 2017 | Ankara, Turkey
- Developed a program that automizes object tracking and summarizes the process.
- Improved the pre-coded object detection algorithm using CNNs instead of Cascade Bag-of-Words algorithms.

8BIT AI & VISION | Software Engineering Intern
July 2016 - September 2016 | Ankara, Turkey

- Improved the speed of convolution algorithm that uses hamming distance.
- Deployed the improved module on MongoDB

RESEARCH

UNAM | Undergraduate Researcher
Jan 2017 - Sep 2017 | Ankara, Turkey
Worked with **Dr. Seymur Jahangirov** and **Dr. Ayça Ergül** to implement Spiking Neural Networks with Python and analyzed the raster plots of various neuron types such as IF, LIF, Izhikevich, Hodgkin Huxley etc. to discover engrams and what they represent.

UNAM | Researcher
Sep 2018 - | Ankara, Turkey
Created a spiking neural network that can take sensory input in a 2D world and pursue food in order to survive. The network is trained through extensive Genetic Algorithm. Current goal is to analyze neuronal dynamics of the network to detect Markov Blankets and show implications of Karl Friston's Free Energy Principle.

PROJECTS

YOUTALKWESIGN An integrable tool that can be used on Youtube, translates spoken English to American Sign Language. To achieve fore-mentioned goal, it first turns it into text(skemming, lemmatization done) and the translation happens from English text to ASL. At the end, our avatar performs the equivalent signs visually.

PROTEIN INTERACTOME CLUSTERING To detect which proteins work with each other(group-wise) given a large database, we implemented some novel algorithms such as Louvain Modularity, InfoMap and k-Clique; improved them using ensembles to get a highly accurate outcome in a computationally reasonable time.

AWARDS AND HONORS

2019	2nd/50(group)	inzva Algorithmic Competition Winter Camp
2018	1st/84(group)	inzva Algorithmic Competition Summer Camp
2018	1st/40(group)	Best Senior Design Project, Bilkent CS Fair
2013	top 0.001%	2673rd/1923033 University Entrance Exam
2012	1st/500+	20th National Physics Olympiad in Eastern Turkey