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🏳 Nationality: Iranian
👪 Birthdate: 1999-07-17

Education

Oct 2021 – Now	MSc, Visual Computing, Saarland University
	Selected Courses: Image Acquisition Methods (1.3), Advanced Image Analysis (1.7), Computer Graphics (1.7)
Sep 2017–Jul 2021	BSc, Computer Engineering, K. N. Toosi University of Technology,
	Cumulative GPA: **18.70/20** (US CGPA: **3.92/4**), Ranked **5**th in class of 75
	BSc Thesis: Monocular 3D Vehicle Detection on Road Scenes **Supervisor:** Dr. Behrooz Nasihatkon
	Referee: Dr. Ali Ahmadi **Grade:** 20/20 **Code:** click here.

Fields of Interests

General	Artificial Intelligence, Computer Vision, Machine Learning, Image Processing.
Specific	Both Model-based and Deep-learning-based 2D & 3D Object Detection and Tracking, Autonomous Driving, Video Analysis, Human Activity Recognition, Optical Flow Estimation, 3D Reconstruction, Visual Odometry, Image Segmentation, Generative Networks.

Honors and Awards

Sep 2018–Jul 2019	**Dean's List**, second year of study.
Sep 2018–Jul 2020	Excellent Students **Scholarship**, from Kanoon Farhangi Amoozesh.
Sep 2017–Jul 2021	Full Tuition Fee **Waiver**, from K. N. Toosi University of Technology.

Technical Skills

Languages	Python, C++, Java, x86 Assembly.
Libraries and Frameworks	OpenCV , Numpy, Tensorflow 1.x & Keras, Scikit-learn, Gstreamer, Nvidia DeepStream, Nvidia VPI, SimpleITK.
Programming	Object Oriented and Functional Programming, OOP Design Patterns.
Concepts	Model Quantization, SIMD Programming, Dynamic Programming, Async Programming
Essentials	Docker, Version Control Systems such as Git and GitHub, Agile Project Management with Scrum, Jira & Confluence, CMake, Tmux, Basic Bash Scripting.
Image Processing	Morphological Operations, Image Transformation and Registration.
Computer Vision	Real-time Multiple Object Detection and Tracking, Background Subtraction, Feature Extraction and Matching, Camera Calibration and Geometry.
Linux Distros	Ubuntu.
Familiar Boards	Jetson Xavier, Raspberry Pi 4.
IDEs and Editors	PyCharm, IntelliJ IDEA, GNU Emacs.

Language

Farsi (Native), English (Professional Proficiency, C1), German (Beginner, A1)
TOEFL iBT

January-9 2020	Total: **106**	Reading: 29	Listening: 28	Speaking: 25	Writing: 24

Academic Experience

	At K. N. Toosi University of Technology
Spring 2021	Head Teaching Assistant, **Fundamentals of Computer Vision**, Instructor: `Dr.  Behrooz Nasihatkon`.
Fall 2020	Teaching Assistant, **System Analysis and Design**, Instructor: `Dr.  Mehdi Esnaashari`.
Fall 2019	Head Teaching Assistant, **Fundamentals of Programming**, Instructor: `Dr.  Behrooz Nasihatkon`.
Fall 2019	Head Teaching Assistant, **Assembly and Machine Language**, Instructor: `Dr.  Behrooz Nasihatkon`.
Spring 2019	Teaching Assistant, **Assembly and Machine Language**, Instructor: `Dr.  Behrooz Nasihatkon`.
Spring 2019	Teaching Assistant, **Advanced Programming with Java**, Instructor: `Dr.  Mehdi Esnaashari`.
Fall 2018	Teaching Assistant, **Fundamentals of Programming**, Instructor: `Dr.  Behrooz Nasihatkon`.
	Others
Summer 2019	Course Instructor, **Programming with Java**, Alzahra University, Tehran, Duration: 30 Hours.

Work Experience

Feb 2021 - Oct 2021	Computer Vision Engineer at **Sensifai**, Belgium, (remote).
	My primary focus was on optimizing video processing pipelines on Jetson. For instance, applying some of the transformations in a zero-copy manner with a custom DeepStream plugin in C++.
Nov 2019 - Sep 2020	Computer Vision Intern at **Rahbin Sanat Nasir**, Iran.
	Mostly worked on the FCW module of our low-cost ADAS solution. My primary focus was on enhancing object detection and tracking accuracy and lowering inference time.

Projects

	Related coursework projects
July 2020	Persian form reader ∣ Fundamentals of Computer Vision
June 2020	Object detection using background subtraction and morphology on FPGA ∣ Digital System Design
January 2020	Adding and filtering image noise using SystemC ∣ Hardware Software Co-design
June 2019	Implementing Voronoi diagram using Java ∣ Algorithm Design
January 2019	Image blending using x86 Assembly ∣ Assembly and Machine Language
	Personal projects
Under Development	Light Pen ∣ Pen tip recognition and light pen simulation using computer vision.
Under Development	Green Screen ∣ Green screen effect using background subtraction and morphology.
March 2020	Magic Webcam ∣ A virtual webcam for streaming processed images to any other application.

Certificates

	Verified certificates from Coursera online MOOC platform
November 2019	Structuring Machine Learning Projects ∣ `deeplearning.ai`
October 2019	Hyperparameter tuning, Regularization, and Optimization ∣ `deeplearning.ai`
September 2019	Neural Networks and Deep Learning ∣ `deeplearning.ai`
	Other certificates
September 2019	Advanced Deep Learning ∣ KNTU ACM Student Chapter.
July 2019	Fundamentals of Deep Learning ∣ KNTU ACM Student Chapter.
October 2018	Javacup Certified Java Programmer ∣ Javacup Association.
	Audits
Spring 2019	Introduction to Computer Vision ∣ Georgia Tech ∣ Udacity Online Platform
Fall 2019	Introduction to Reinforcement Learning by David Silver ∣ UCL ∣ DeepMind

Hobbies

Playing and Listening to Piano, Listening to Self-development Podcasts and Talks, Documentaries, Hiking.