CV - Jalil Nourmohammadi Khiarak

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Profile:

As a machine learning engineer with over **5 years** of experience, I have developed a deep understanding of the field, working on various projects such as image recognition, and predictive analytics. I am highly skilled in programming languages such as Python and machine learning frameworks including TensorFlow and PyTorch. I have a proven track record of developing innovative algorithms and models to solve complex business problems and collaborating with cross-functional teams to deliver scalable and robust solutions. With a degree in Computer Science and extensive hands-on experience in the field, I am a results-driven engineer passionate about applying machine learning techniques to real-world challenges.

Education:

Ph.D. Artificial Intelligence and Robotics at **Warsaw University of Technology**, Warsaw, Poland, 2018-Present
Ph.D. Mobile biometrics research at GUTI lab, **Universidad Carlos III de Madrid,** Madrid, Spain (Secondment), Oct 2019-Dec 2019.
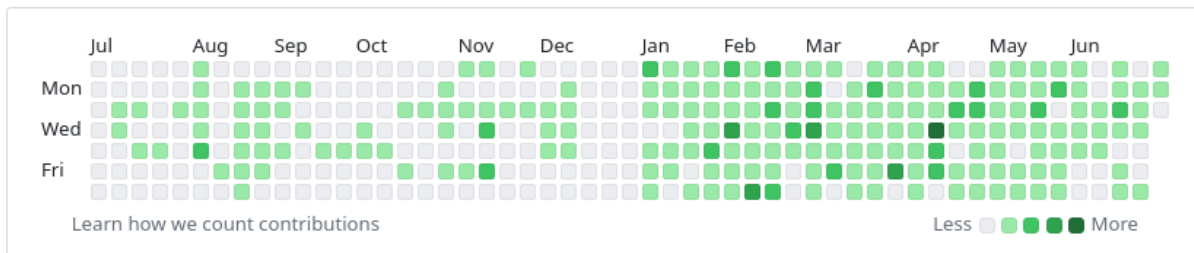**M.Sc.** Artificial Intelligence and Robotics, **University of Tabriz**, Tabriz, Iran, 2013-2015
B.Sc. Software Engineering, **Non-Profit University of Sabalan**, Ardabil, Iran, 2009-2013

Github:

Work Experience:

❖ Expert Algorithm Development Engineer
APTIV- Krakow, Poland (Sep 2024 - Present)

- ❖ Working in one of the Scrum teams on perception algorithms development
- ❖ Driving and leading technical discussions involving algorithm design and ML

improvements and integration
- ❖ Evaluation and evolution of our market-leading perception software solutions
- ❖ Investigation and adaptation of latest development in technology and methodology into our solution stack
- ❖ Development and integration of algorithms in C++ and Python
- ❖ Quality assurance via design, requirement and comprehensive verification and validation according to Aptiv process and industry standards
- ❖ Continuous improvement of supporting factors, e.g., simulation tools and testing environment
- ❖ Troubleshooting and issue resolution for ongoing programs and projects
- ❖ Defining the performance evaluation criteria for radar perception algorithms
- ❖ Interaction with system & testing teams, customers and project management
- ❖ Contributing to the technical road map and development strategy.

❖ Machine Learning Engineer
Omniaz - Warsaw, Poland (May 2022 - August 2024)
- Training deep learning model for object recognition model
- Researching and implementing ML algorithms and tools (PyTorch).
- We are preparing a pipeline for the recognition model.
- It is identifying differences in data distribution that affect model performance.
- Verifying data quality (Our dataset)

❖ Machine Learning Engineer
SonarHome - Warsaw, Poland (July 2021 - April 2022)
- Working on room type detection and deploying it on production
- Researching and implementing ML algorithms and tools (Resnet34 in FastAI)
- Data analyzing and managing data collection for room type detection

❖ Machine Learning advisor
ShyldAi - California, USA (Jan 2021 - March 2023) - Part-time
- Training deep learning model for object detection on Jeston NX Xavior Nvidia
- Researching and implementing ML algorithms and tools (YOLOV4 and ScaledYoloV4 for human detection)
- Data analyzing and managing data collection for human detection

❖ Software Engineer
International Institute of Molecular and Cell Biology - Warsaw, Poland (Jan 2021 - July 2021)
- Processing RNA images into fundamental components to extract meaningful information

❖ Software Engineer
Basir Processing Qeshm Company - Tehran, Iran (Dec 2015 - Dec 2017)
- Verifying data quality (Our dataset).
- Implementing basic image processing algorithms

Technical Skills (Expertise):

- Programming Languages:
  - Python (7 years)

- ○ Matlab (2 years)
- Machine Learning Frameworks:
  - ○ TensorFlow(2 years)
  - ○ PyTorch(3 years)
  - ○ Keras(2 years)
  - ○ Scikit-learn(2 years)
- Data Manipulation and Analysis:
  - ○ Pandas(7 years)
  - ○ NumPy(7 years)
  - ○ SQL(2 years)
- Deep Learning Architectures:
  - ○ CNNs(5 years)
  - ○ RNNs(2 years)
  - ○ GANs(1 year)
  - ○ ViT(2 years)
- Cloud Computing:
  - ○ Amazon Web Services (AWS) (3 year)
  - ○ Microsoft Azure (1 year)
- Software Development:
  - ○ Git(6 years)
  - ○ Jupyter Notebooks (5 years)
  - ○ Docker (2 years)
- Other Technical Skills:
  - ○ Natural Language Processing (NLP)(1 year)
  - ○ Computer Vision(7 years)

Workshops and publications:

- More +10 international workshops in machine learning and computer vision Area in the world
- 14 publications in international conferences and ISI journals
  - ○ https://scholar.google.com/citations?hl=en&user=_I3xMO8AAAAJ&view_op=list_works&sortby=pubdate

Some top papers:
- **Jalil Nourmohammadi Khiarak**, et al. "Ear-Touch-Based Mobile User Authentication." Mathematics 12.5 (2024): 752.
- **Jalil Nourmohammadi Khiarak**, et al. "Exploring bias in sclera segmentation models: A group evaluation approach." IEEE Transactions on Information Forensics and Security 18 (2022): 190-205.
- **Jalil Nourmohammadi-Khiarak,** et al. "New hybrid method for heart disease diagnosis utilizing optimization algorithm in feature selection." Health and Technology 10.3 (2020): 667-678.

References:

Recommendations are taken from LinkedIn:
https://www.linkedin.com/in/jalilnkh/details/recommendations/?detailScreenTabIndex=0

Grzegorz Sarwas PhD, Eng · 2nd

Assistant Professor at Institute of Control and Industrial Electronics at Warsaw University of Technology

July 3, 2024, Grzegorz managed Jalil directly

I am thrilled to recommend Jalil, who has been a valuable member of our computer vision team. During his time with us, Jalil has demonstrated immense engagement in developing and implementing cutting-edge algorithms for image detection and recognition algorithms dedicated to mobile devices.

Jalil is incredibly hardworking and diligent, consistently bringing a high level of dedication to our projects. He tackled complex challenges with ease and significantly advanced our goals.

Moreover, Jalil exemplifies a highly cultured and professional individual, making him a pleasure to work with.

I highly recommend him for any opportunity he pursues.

#recommendation #computervision #innovation #professionalism #teamwork

Morteza N. · 2nd

Advancing the Frontier of Generative AI | Ex-Stanford Lead Scientist

June 8, 2022, Morteza managed Jalil directly

Jalil is a hard-working , efficient and very skillful person. I had the pleasure of collaborating with him towards delivering a AI powered product, specifically with training deep neural network models. As an engineer he was able to finish the given tasks very quickly, showing very good programming and algorithmic skills . Besides his technical skills he is a very kind person that is always willing to cooperate in order to find common ground for all the problems. I would definitely recommend hiring and working with Jalil.

Meysam Asgari-Chenaghlu · 1st

Staff Machine Learning Scientist • PhD NLP • Co-Author of "Mastering Transformers"

January 21, 2022, Meysam worked with Jalil on the same team

I had the chance to work with Jalil on different research occasions. He is truly a wonderful team-player and a talented researcher. It was great chance to know him and work with him. I hope to have more collaborations with him in future as well.