Hossein Shakibania

Email: shakibania.hossein@gmail.com
Phone: (+98) 918 019 9499
GitHub: github.com/hossshakiba
LinkedIn: linkedin.com/in/hossein-shakibania

Education

Bu-Ali Sina University — Hamedan, Iran
B.S. in Computer Engineering — September 2019 – Present

GPA: 3.77/4.0 (18.18/20), **Class Rank:** 1st
Last Two Years GPA: 3.96/4.0 (19.00/20)
Bachelor's Thesis: *"CDAN: Convolutional Dense Attention-guided Network for Low-light Image Enhancement"*, under the supervision of Prof. Hassan Khotanlou.

Relevant Coursework: Pattern Recognition (19.5/20) • Foundations of Computer Vision (20/20) • Foundations of Data Mining (20/20) • Information Retrieval & Web Search (20/20) • Artificial Intelligence & Expert Systems (17.6/20) • Research and Technical Presentation (20/20) • Algorithm Design (20/20) • Data Structures (18/20)

Activities and Societies: Member of Student Scientific Association of Computer Engineering • Contest Judge in Intercollegiate Programming Contest

Research Interests

• Computer Vision • Visual Recognition • Multimodal AI Systems
• Image Editing & Restoration • Scene Understanding • Generative AI

Publications

• **Shakibania, H.**, Raoufi, S., & Khotanlou, H. (2023). CDAN: Convolutional Dense Attention-guided Network for Low-light Image Enhancement. *IEEE Transactions on Image Processing*, **(Under Review)**. Available at arXiv: 10.48550/arXiv.2308.12902

• **Shakibania, H.**, Raoufi, S., Pourafkham, B., Khotanlou, H., & Mansoorizadeh, M. (2023). Dual Branch Deep Learning Network for Detection and Stage Grading of Diabetic Retinopathy. *Biomedical Signal Processing and Control*, **(Under Review)**. Available at arXiv: 10.48550/arXiv.2308.09945

Research Experience

Robot Intelligence and Vision Lab — Bu-Ali Sina University
Supervisor: Prof. Hassan Khotanlou — May 2023 – August 2023
• Introduced an autoencoder-based network with convolutional and dense blocks, complemented by an attention mechanism for low-light image enhancement.
• Suggested composite loss (L2 + VGG) for improved numeric and perceptual results.
• Co-authored a related paper, contributing to all stages of the research.
• Presented "Enhancing Low-Light Images: A Survey" to a graduate audience.

Intelligent Systems and Machine Learning Lab — Bu-Ali Sina University
Supervisor: Dr. Muharram Mansoorizadeh — October 2022 – May 2023
• Developed a dual-branch deep network for diabetic retinopathy detection and grading.
• Leveraged transfer learning and a curated multi-center dataset.
• Co-authored a related paper, actively engaging in all research stages.
• Achieved state-of-the-art results for diabetic retinopathy detection and grading.

Test Scores

IELTS Academic, Overall Band Score: **7.5** (L: 8.0, R: 8.5, W: 6.0, S: 7.5) March 2023

Teaching Experience

Undergraduate Teaching Assistant Bu-Ali Sina University

Digital Image Processing (Graduate), Instructor: Prof. Hassan Khotanlou Fall 2023
Foundations of Computer Vision, Instructor: Prof. Hassan Khotanlou Fall 2023
Foundations of Data Mining, Instructor: Dr. Muharram Mansoorizadeh Fall 2023
Algorithm Design, Instructor: Dr. Mir Hossein Dezfoulian Spring 2023
Databases, Instructor: Dr. Morteza Yousef Sanati Fall 2022
Data Structures, Instructor: Dr. Samira Khodabandehlou Spring & Fall 2022

Work Experience

Software Developer October 2021 - March 2023
AIEX · Part-time Vancouver, BC, Canada · Remote
Description: Developed computer vision platform services, including data augmentation pipeline, versatile data import/export methods, dataset and annotations healthcheck, backend APIs, and other functionalities, supporting end-to-end vision tasks.

Honors & Awards

- Ranked 1st in terms of cumulative GPA among computer engineering students enrolled in 2019, Bu-Ali Sina University, Hamedan, Iran August 2023
- 2nd place in the Data-Driven Decision Making (DDDM) competition, Bu-Ali Sina University, Hamedan, Iran May 2023
- 1st place in the West Iran Collegiate Programming Contest (WICPC), Iran west region, Bu-Ali Sina University, Hamedan, Iran November 2019
- Ranked in the top 2% in the nationwide matriculation exam September 2019

Skills & Technical Tools

- Programming: **Python**, C/C++
- Deep Learning: **PyTorch**
- Image Processing: **OpenCV**, Pillow
- DBMS: PostgreSQL, MySQL, Redis
- Data Mining: Weka, RapidMiner
- Machine Learning: **Scikit-Learn**, XGBoost
- Data Manipulation: **Pandas**, NumPy, SQL
- Data Visualization: **Matplotlib**, Seaborn
- Document Typesetting: LaTeX, Mendeley
- Others: Git, Docker, Django, Celery

Selected Projects

CDAN: An autoencoder-based network for low-light image enhancement. GitHub
AeroSegment: Semantic segmentation for aerial urban understanding. GitHub
EyeSee: An efficient CNN model for retinal diseases classification. GitHub
TweetFeel: Sentiment and data analysis on Covid-19 related tweets. GitHub
Face2Gender: Intelligent gender classification from facial Images. GitHub
FaceGAN: A DCGAN for generating realistic human faces. GitHub
ImageTiler: A high-resolution image divider with annotation preservation. GitHub

Certifications

Oxford Machine Learning Summer School, AI for Global Goals Credential
Neural Networks and Deep Learning, Coursera Credential
Big Data Modeling and Management Systems, Coursera Credential
Introduction to Big Data, Coursera Credential

References

Available upon request.