MILAD SOLEYMANI

Email: miladsoleiimani@gmail.com

Website - GitHub - Linkedin - Google Scholar

SUMMARY

I am Milad Soleymani, specializing in developing new neural architectures and optimizing training algorithms. Proficient in Python, and various AI/ML frameworks, I have designed robust predictive systems and generative models. My research includes significant projects in EEG signal analysis and voice recognition for chronic heart failure phenotyping, demonstrating the application of AI in medicine. My career goal is to advance AI applications across diverse fields, and leveraging cutting-edge research and development.

EDUCATION

- **B.Sc. Electrical Engineering** **Sep 2018 - Sep 2023**
  K. N. Toosi University of Technology, Tehran, Iran
  - ◊ **GPA: B+**
  - ◊ **Thesis Project:** Developing a Label Tracking Tool for Semantic Segmentation of Videos and Images
    Advisor: Dr. Behrooz Nasihatkon github
- **Highschool Diploma, Physics and Mathematics** **Sep 2015 - Jun 2018**
  - ◊ **GPA: A+**

SKILLS

- **Software Skills:**
  - ◊ **Fluent: Python** (PyTorch, TensorFlow, Keras, Scikit-learn, Numpy, Gradio, Scipy, Pandas, Matplotlib, MNE, OpenCV, PySpark, Kubeflow, Django)
  - ◊ **Basic**: Docker, Git, Linux, Java, C++, Bash, SQL
- **Experimental:**
  - ◊ **Statistics, Signal Processing, Medical Image Processing**
- **Cloud Skills:**
  - ◊ **Microsoft Azure, Google Cloud Platform (GCP), AWS**
- **Soft Skills:**
  - ◊ **Critical Thinking, Communication, Teamwork, Attention to Detail**

LANGUAGES

- **TOEFL iBT: 93 (Dec 16, 2023)**
- **Persian: Native Language**

PUBLICATIONS

- Mohammadi A. ,**Soleymani M.**, Ziaee S., Partovi A. **POC-CSP: A novel Parameterised and Orthogonally-Constrained Neural Network layer for learning Common Spatial Patterns (CSP) in EEG signals** (Prepared Manuscript)
  Link: **Manuscript PDF**

- **Soleymani M**, Ziaee S, Mohammadi A. , Partovi A **A Self-supervised Task-agnostic Embedding for EEG Signals** (Prepared Manuscript)
  Link: **Manuscript PDF**

- **A Deep Learning Algorithm for Classifying Grasp Motions using Multi-session EEG Recordings**
  Link: **10.1109/BCI51272.2021.9385295**
  Advisor: Dr. F. Goodarzy, Dr. A. Partovi

RESEARCH EXPERIENCE

- **Developing a Pipeline for Image Generative AI (Stable-Diffusion, Pix2Pix, and ControlNet)**
  RUTILEA, Japan **Apr 2023 - Nov 2023**
  - ◊ Implemented techniques to enhance pipeline stability. (Docker)
  - ◊ Generated industrial images using Stable-Diffusion, Pix2Pix, and ControlNet.
  - ◊ Conducted rigorous testing and validation for model reliability. (Pytorch, Gradio, HuggingFace Pipeline)
  - ◊ Ensured scalability of the framework on Microsoft Azure and Google Cloud Platform (GCP).

- **Working on a groundbreaking research initiative focused on the use of voice recognition for chronic heart failure (CHF) phenotyping.**
  Advisor: Dr. A. Partovi **Aug 2021 - May 2022**
  - ◊ Conducted extensive research on voice biomarker identification. (Scipy, Librosa, Scikit-learn)
  - ◊ Enhanced non-invasive diagnostics for CHF. (Pytorch)
  - ◊ Successfully managed the research process, ensuring timely and accurate results.

- **Exploring Classification and Feature Extraction Techniques in Electroencephalography (EEG)**
  Advisor: Dr. A. Partovi, Dr. F. Goodarzy **Dec 2019 - Apr 2023**
  - ◊ Implemented models for EEG data classification using Python libraries (PyTorch, TensorFlow)
  - ◊ Designed a layer for extracting Common Spatial Pattern (CSP) features (Pytorch).
  - ◊ Successfully increased accuracy of classification in famous public datasets
  - ◊ Managed extraction activities (Numpy, Scipy, MNE)

WORK EXPERIENCE

- **Data Scientist - Computer Vision** **Aug 2022 - Nov 2023**
  RUTILEA, Japan

  ◊ During my tenure at Rutelea, I developed advanced generative models for both images and text. These models are capable of producing high-quality industrial-specific images and providing specialized descriptions for various user queries. Additionally, I worked on AI-driven projects, including HVAC compressor control systems and robotic solutions for object transfer using visual inputs to identify and manipulate objects on conveyor belts. These projects demonstrated my ability to apply artificial intelligence to enhance operational efficiency and drive innovation within the company. More Details

- **Data Scientist** **Dec 2019 - Jun 2022**
  KeyLead Health, Australia

  ◊ As a Data Scientist at KeyLead Health, I developed AI-based systems for processing biological signals, including EEG, and worked on audio data analysis to detect chronic heart failure. I optimized machine learning algorithms to enhance diagnostic accuracy and patient monitoring. Additionally, I analyzed Australian pharmaceutical data to perform predictive analytics, contributing to improved healthcare outcomes. My work involved leveraging AI and data science methodologies to solve complex problems in the healthcare domain. More Details

COURSES AND CERTIFICATES

- **Machine Learning** by Stanford University, Coursera **Feb 2020**
  Grade: 94.11 See credential

- **Deep Learning Specialization** by Deeplearning.ai, Coursera **Jul 2020**
  Grade: 100 See credential

- **DeepLearning.AI TensorFlow Developer Professional Certificate** by Deeplearning.ai, Coursera **Jul 2020**
  Grade: 98.43 See credential

- **Advance python programming and object-oriented thinking course** Quera **Feb 2020**
  Grade: 98.43 See credential

- **Task-Oriented Course In Linux** Quera **Mar 2023**
  Grade: 98.43 See credential

HONORS AND AWARDS

- **2020 International BCI Competition 6^{th} Place** **Jan 2019**

  ◊ Classifying hand grasping motion i.e. cylindrical, spherical, lumbrical

  ◊ The final result on Classifying this dataset is 40.35%

- **Iran national university entrance for B.Sc** **2018**

  ◊ Ranked top 0.3% (over 200,000 students)

REFERENCES

- **Dr. Behrooz Nasihatkon**: Assistant Professor at K. N. Toosi University of Technology — CEO at Rahbin Sanat Nasir
  Email: nasihatkon@kntu.ac.ir linkedin
- **Dr. Andishe Partovi**: AI/ML specialist at Google Cloud — Co-Founder at Metronome — PhD candidate University of Melbourne Australia
  Email: andipartovi@google.com linkedin
- **Dr. Farhad Goodarzy**: Senior Researcher at the University of Melbourne Australia — Data Scientist, Senior Position at Fraim
  Email: goodarzy@unimelb.edu.au linkedin