Madina Saparbayeva

Email: madina.saparbayeva@alumni.nu.edu.kz
LinkedIn: msaparbayevna
Mobile: +7 (705) 686-40-17
Github: github.com/antagonisuto
Preferred email: madina.saparbayeva@alumni.nu.edu.kz (gmail)

Experience

- **ML Engineer (Full-time)** — Almaty, Kazakhstan
  ADV Group — *August 2022 - Present*
  - **Programming**: Face detection and recognition with dlib package for reducing memory and CPU usage. Develop whole pipeline of project: from motion detection to sending JSON Face Recognition Data to server. The whole data is saved on local database and server side.
  - **Result**: Decreased CPU usage from approximately 300 GB to 500 MB. Model recognizes face with 94% accuracy, and show ID, gender, emotion, age
  - **Additional**: As ex-UX/UI Designer, I designed dashboard and landing pages.

- **Senior-Lecturer (Part-time)** — International Information Technology University
  Almaty, Kazakhstan — *January 2023 - Junes 2023*
  - **Course**: Web-Technologies, the syllabus covers fields of Front-End, UX/UI, Database and Back-End Development (Go Programming Language)
  - **Lecturing**: 116 students (6 groups)

- **Research Assistant (Full-time)** — Astana, Kazakhstan
  Nazarbayev University — *July 2021 - June 2022*
  - **Programming**: Built classification models using Python, Tensorflow, Keras, scikit-learn. Tested models(pipeline) on experiment.
  - **Research**: Conducted literature review (50+ papers), collected and analyzed data of 15 persons' brain signals for 2 hours.
  - **Result**: Decoding accuracy increased from 76% to 90% on Brain-Computer Interfaces dataset. Brain-Computer Interfaces dataset have a lot noises which 50% decoding accuracy takes as good result.

Education

- **Nazarbayev University** — Nur-Sultan, Kazakhstan
  Master of Science - Computer Science — *August 2020 - June 2022*
  Thesis: Non-oddball ERP Paradigms with Joint Temporal-Frequency Learning in Convolutional Neural Network

- **International Information Technology University** — Almaty, Kazakhstan
  Bachelor of Technology - Computer Systems and Software Engineering — *September 2016 - June 2020*
  Project Work: Online platform of psychological support for people in difficult social situations

Projects

- **Approaches to ERP classification: a comprehensive comparative study**: Research oriented, Convolutional Neural Network approach has a decoding accuracy more than 90% for both the non-oddball visual and auditory paradigms, respectively, outperforming the linear classifier model noticeably.
- **COVID-19 classification from X-ray images (Computer Vision)**: COVID-19 detection from X-Ray images via Artificial Neural Networks by using Deep Learning architectures.
- **Approaches to MI paradigm classification on discrete and continuous data**: a comprehensive analysis of multiple baseline ML approaches (LDA, SVM, KNN, CNN, LR) on MI based BCI datasets with respect to a plenitude of preprocessing methods such as removing slow-drifts and arbitary offsets, bad-channel identifying, CSP, bandpass, feature extraction and selection

Publications and Research Work

- **A Novel Binary BCI Systems Based on Non-oddball Auditory and Visual Paradigms**: Neural Information Processing: 28th International Conference, ICONIP 2021 · Dec 5, 2021
- **Deep learning methods for interpretation of pulmonary CT and x-ray images in patients with COVID-19-related lung involvement: a systematic review**: Analyzed systematic review with 1000+ scientific paper, developed program with searching key words over all papers in **Python Notebook**

Skills Summary

- **Languages**: Python, Go, Java, C++
- **Frameworks**: OpenCV, dlib, Pandas, numpy, Scikit
- **Tools**: GIT, SQLite, PostgreSQL, MySQL, Trello
- **Platforms**: Linux, MacOS, Windows