Arsen Nuramatov

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Education

Saint Petersburg State University Sep 2015 - Jun 2021
FACULTY OF PHYSICS, BS

Thesis title: Mathematical modeling program for the proton charge radius experiment.

Experience

Machine Learning Engineer Nov 2021 - Feb 2022
RUPATIENT

- Improved optical character recognition metrics by applying classical computer vision algorithms using OpenCV and scikit-image.
- Added a number of new document types to the recognition system.

Software Developer Aug 2021 - Sep 2021
OMEGA

- Implemented a voice control module for an educational robot.

Summer Student Jun 2021 - Jul 2021
CERN

- Designed a SCADA software package that detects hardware faults in a subsystem of LHCb's particle detector, and automatically applies countermeasures. This prevents permanent damage to the detector chambers, thus saving time and resources of the engineering team.

Machine Learning Engineer Nov 2020 - Apr 2021
RUPATIENT

- Developed an optical character recognition system for medical records in Python using Tesseract and EasyOCR.
- Implemented a text processing algorithm for extraction of information from discharge reports.
- Wrote a FastAPI backend that serves the data that was extracted from recognized text.

According to a study published in 2021, the developed health information system significantly increases the document management efficiency: DOI:10.15829/1728-8800-2021-3080.

Associated Member of Personnel Jul 2019 - Aug 2019
CERN

- Investigated the data acquisition scheme using scikit-learn, pandas, and NumPy. This allowed to reduce the number of independent variables and to improve the accuracy of the archived data.

Laboratory Assistant Apr 2019 - Jun 2021
PETERSBURG NUCLEAR PHYSICS INSTITUTE

- Applied Monte Carlo methods using C++ and Geant4 library to model physical processes that occur in the experiment.
- Developed a generative adversarial network using PyTorch to model particle scattering events, which drastically improved the simulation performance.
- Optimized Python discrete Fourier transform module by a factor of 1000.
- Integrated Docker and Conda into the development pipeline.

Skills

Programming languages: Python, MATLAB, Javascript, SQL, Go
Libraries: FastAPI, PyTorch, Scikit-learn, Pandas, NumPy
Tools: Docker, Git, LaTeX