ANNA BADALYAN

DATA SCIENTIST

CONTACT

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⌗ https://github.com/badalyananna

ABOUT ME

I am an enthusiastic python programmer, math lover and data scientist, passionate about building intelligent systems for social good.

TECH SKILLS

Programing languages:
Java (intermediate)
Python (advanced)
R (intermediate)
SQL (intermediate)

Python libraries:
Keras, Numpy, NLTK, MatplotLib, Pandas, PyTorch, Scikit-learn, SciPy, Seaborn, TensorFlow … and many more.

BI-tools:
Tableau, Power BI, Redash

Web development:
HTML 5, CSS, JavaScript, Django

ADDITIONAL COURSES

- *Fundamentald of Deep Learning* – NVIDIA
- *Data Analyst Nanodegree Program* – Udacity
- *Algorithmic Toolbox* – Coursera
- *Mathematics for Machine Learning* – Coursera Specialization

EDUCATION AND TRAINING

MASTER'S DEGREE IN DATA SCIENCE
27/09/2021 – 23/02/2024 – Padova, Italy
University of Padua, GPA 29.3/30, graduated with honors

BACHELOR'S DEGREE IN ECONOMICS
01/10/2015 – 13/06/2019 – Moscow, Russia
National Research University Higher School of Economics, GPA 8.04/10

ACADEMIC EXCHANGE PROGRAM ERASMUS PLUS
20/02/2018 – 04/07/2018 – Rome, Italy
University of Rome Tor Vergata

WORK EXPERIENCE

RESEARCH INTERN – MAX PLANCK INSTITUTE FOR INTELLIGENT SYSTEMS
14/04/2023 – 14/10/2023 – Tübingen, Germany
- Internship with a master's thesis.

DATA SCIENCE TUTOR – UNIVERSITY OF PADUA
01/10/2022 – 31/07/2023 – Padua, Italy
- Helped first-year Data Science students with Math and Computer Science related subjects.

RESEARCH INTERN – MACHINE LEARNING GROUP, UNIVERSITY OF PADUA
10/09/2022 – 16/10/2022 – Padua, Italy
- Worked on improving natural language understanding by applying the concept of discursive repertoirs.
- Improved the performance of BERT based classifier by fine tuning model parameters.

ASSISTANT AND RESEARCHER – LIAISON OFFICE AT THE EMBASSY OF ITALY IN UZBEKISTAN
01/09/2019 – 31/10/2021 – Tashkent, Uzbekistan
- Collected and analyzed security and drug-related data in Central Asian countries
- Used NLP techniques to create a news filter app for efficient news search.

JUNIOR DATA ANALYST – VALIOTTI ANALYTICS
15/04/2021 – 31/07/2021, online
- Analyzed data of the game app using Redash and SQL
- Created dashboards in Redash, Tableau and Power BI

FREELANCE WEB DEVELOPER – SELF EMPLOYED
01/08/2018 – 31/08/2019 – Moscow, Russia
- Built web pages using HTML, CSS, and JavaScript

ENGLISH AS A SECOND LANGUAGE TUTOR – SKYENG
01/02/2017 – 31/01/2018 – Moscow, Russia
- Prepared and conducted lessons.

ASSISTANT RESEARCHER IN UNIVERSITY – NATIONAL RESEARCH UNIVERSITY HIGHER SCHOOL OF ECONOMICS
01/12/2016 – 25/06/2017 – Moscow, Russia
- Collected data from the census archives.
- Prepared meterial for the lessons.

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DATA SCIENTIST

SCIENTIFIC INTERESTS

- Impact of computation on society
- Algorithmic fairness
- Numerical optimization
- Pobabilistic modelling

LANGUAGES

- Russian (native)
- English (proficient)
- Italian (proficient)
- Armenian (limited proficiency)
- French (limited proficiency)
- Uzbek (limited proficiency)

PROJECTS

INFERENCE ON HYPERGRAPHS WITH NODE ATTRIBUTES – INTERNSHIP PROJECT, MAX PLANCK INSTITUTE FOR INTELLIGENT SYSTEMS

- Built a stochastic block model for community detection and inference on hypergraphs which incorporates node attributes.
- Conducted experiments to evaluate the performance of the model and analysed results.
- Contributed to writing a paper (preprint will be ready soon).

FRANK WOLFE FOR CLUSTER DETECTION ON HYPERGRAPHS – OPTIMIZATION FOR DATA SCIENCE COURSE, UNIVERSITY OF PADUA

- Implemented Frank Wolfe variants to solve maximum clique problem on uniform hypergraphs.

CLICK MODELS – INFORMATION RETRIEVAL COURSE, UNIVERSITY OF PADUA

- Built probabilistic click models for predicting the relevance of web search.
- Implemeted Maximum Likelihood and Expectation Maximization algorithms from scratch.

PUBLICATIONS

Badalyan, A., Ruggeri, N., & De Bacco, C. (2023). *Hypergraphs with node attributes: structure and inference.* arXiv preprint https://arxiv.org/abs/2311.03857

SUMMER SCHOOLS

CHALLENGES IN BUILDING BILLION USERS CLOUD APPLICATIONS
03/09/2023 – 08/09/2023 – Varenna, Italy
BiCi, https://buca23.bici.events/

- Top 5% students based on the GPA were selected to participate in the program.

VOLUNTEERING

IEEE WCCI – IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE
18/07/2022 – 23/07/2022 – Padua, Italy

- Volunteered to help the organization of the conference.