Deniz Nazarova

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Research Interests

Artificial Intelligence, Machine Learning,

Natural Language Processing, Multilingual NLP, Computational Linguistics, Neuro-Symbolic AI
Human-Centered Computing, Human-Computer Interaction, Human-AI Collaboration
AI Bias, AI Ethics, Data Retrieval, Socially Responsible AI
Computational Neuroscience, Cognitive Science, Brain Imaging

Publications

- **Nazarova, D.** (2023). Application of Artificial Intelligence in Mental Healthcare: Generative Pre-trained Transformer 3 (GPT-3) and Cognitive Distortions. In: Arai, K. (eds) *Proceedings of the Future Technologies Conference (FTC) 2023*, *Volume 1*. (FTC 2023, Lecture Notes in Networks and Systems, vol 813). Springer, Cham. https://doi.org/10.1007/978-3-031-47454-5_16
- Djordjevic, J., Gagoshashvili, M., Andrew, P., Veloso V., Palaniswamy, P., Leung, J. P., Nikolic, T., **Nazarova, D.**, Izaias, A. I., Abdel-Nabi, D., Mungure M. D., Tricia, T., Atay, H. (2022). *A Look into Frida's Participatory Grantmaking Model. "Resourcing Connections: Reflections on Feminist Participatory Grantmaking Practice"*. FRIDA. https://youngfeministfund.org/a-look-into-fridas-participatory-grantmaking-model-resourcing-connections-reflections-on-feminist-participatory-grantmaking-practice/
- Molchanova, E., Galako, T., Bruce, S., Fountoualkis, K., Smirnova, D., Panteleeva, L., Kosterina, E., Childebaeva, A., Radchenko, V., **Nazarova, D.**, & Kim, E. (2022, August 3-6). *Estimating the Effects of Covid-19 Outbreak on Mental Health (Comet): The Case of The Kyrgyz Republic* [Conference presentation abstract]. Twenty-second annual WPA (World Psychiatric Association) World Congress of Psychiatry, Bangkok, Thailand. https://gonzoden.github.io/cv-website/pub_mh_covid.html

Education

American University of Central Asia | Bishkek, Kyrgyzstan | Bachelor's Degree | 09.2018 – 06.2023

Majors: Software Engineering, Psychology
GPA: 3.91/4.0

Software Engineering Senior Thesis: "Application of Artificial Intelligence in Mental Healthcare: Generative Pre-trained Transformer 3 (GPT-3) and Cognitive Distortions"
https://gonzoden.github.io/cv-website/st_sfw.html

Psychology Senior Thesis: "Engineering and Estimating Efficiency of the Artificial Intelligence Chatbot in Reducing Cognitive Distortions among AUCA Students"
https://gonzoden.github.io/cv-website/st_psy.html

Supervisors: Dr. Almaz Bakenov (SE), Dr. Elena Kosterina (PSY), Dr. Gulnara Kurmanova (PSY)
Mentors (Google Research): Dimitri Kanevsky, Artem Dementyev, Milagros Escoredo

- Trained a sentiment analysis model using transformers.
- Measured the performance of GPT-3 models and fine-tuned them on self-gathered data.
- Built an AI with the integrated database hosted on AWS EC2 (Python, PostgreSQL).
- Completed analysis of user data produced during the 8-week experiment (SPSS).
- Conducted interviews with psychologists and updated the program based on the results.

Nazarbayev University | Astana, Kazakhstan | Foundation Year Program | 08.2016 – 06.2017

Specialization: Biology/Chemistry

Main Research: Benzodiazepines as a modern treatment for young adults with chronic insomnia
Supervisor: Lucy Harrison

- Treatments for insomnia, with a focus on benzodiazepines.
- Interviews with psychiatrists to gain insights into current clinical perspectives.

Research Experience

United Nations Development Programme (UNDP) | Data Analyst | 10/2023 – present

Focus Areas: creative industry, information technology, accessibility

- Completed analysis of qualitative (MAXQDA) and quantitative (SPSS) data for the media campaign.

Central European University | Data Engineer | 07/2023 – 10/2023

Focus Areas: intimate partner violence, Central Asia, same-sex relationships, data science

- Conducted comprehensive data analysis for a dataset of over 1000 individuals with web scraping.

UCLA Global Campus Violence Prevention Network | Student Advisory Board | 02/2022 – 05/2023

Focus Areas: public health, harassment, women's rights

- Assessed university-wide survey outcomes and communicated adjustments to training programs.
- Presented findings of the study during global meetings and transferred them to AUCA.

Neuromatch Academy | Summer Machine Learning Intern | 06/2021 – 09/2021

Focus Areas: computational neuroscience, deep learning, natural language processing, Big Data

- Trained a neural network that recognized with 93% accuracy whether a patient took a language or math test based on fMRI scans (Python, NumPy, matplotlib)
- Concluded training in the fields of AI (deep learning, natural language processing, computer vision), mathematics (multivariate calculus, stochastics, dynamical systems, optimization), and neuroscience.

American University of Central Asia | Data Analyst | 09/2021 – 05/2022

Focus Areas: COVID-19, mental health, social isolation

- Cleaned and analyzed data of 2000+ people (SPSS) on mental health changes during the pandemic.
- Performed literature review, significantly contributing to the final version of the abstract.

AUCA Counseling Service| Researcher Assistant | 05/2021 – 09/2021

Focus Areas: youth mental health, education, youth counseling

- Executed a quantitative study to investigate the impact of pursuing a bachelor's degree on well-being.
- Presented research findings to advocate for mental health awareness facilities on campus.

American University of Central Asia | Researcher Assistant | 02/2021 – 05/2021

Focus Areas: Parkinson's disease, support network, brain disorders

- Performed qualitative analysis of focus group discussions and interviews.

FRIDA fund | Co-researcher | 09/2019 – 05/2020

Focus Areas: participatory grantmaking model, intersectionality, feminism

- Led and analyzed interviews to assess participatory grantmaking effectiveness.
- Reviewed the draft of the report prior to submission.

Three River Stories | Research Assistant | 03/2019 – 07/2019

Focus Areas: ecology, water pollution, collective action

- Processed archival data to analyze the fluctuations in pollution levels.
- Documented the events during the research trip to the Naryn River.

Awards and Scholarships

2023	**Best Thesis Award, Software Engineering Department**
2023	**Best Thesis Award, Psychology Department**
2023	Outstanding Contribution Award, AUCA Writing and Academic Resource Center
2023	Best Research Internship, Annual Student Symposium
2022	Exceptional Leadership Award, Student Affairs Office
2022	Recognition of Excellence, Annual Research Symposium

2022	Student Life Excellence Award, Student Life Office
2022	CCE Capstone Grant, AUCA Center for Civic Engagement
2021	Double Major Scholarship – *covers tuition for the fifth year to complete the second major*
2019-2023	Dean's Lists, President's Lists, Highest GPA at the Department
2018	**Golden Certificate Scholarship, President of the Kyrgyz Republic** – *covers tuition for the entire duration of a bachelor's degree at any university in the Kyrgyz Republic. This scholarship is awarded to individuals who achieve the top 50 results in the nationwide university entrance test, with the recipient ranking third.*
2016	"Abai Kunanbayev" Scholarship, Nazarbayev University International Cooperation Office – *covers tuition for the foundation year program.*
2016	Valedictorian, Educational Complex of Physical and Mathematical Lyceum School No. 61

Conferences

- "Is AI Ready to Work with Mental Health of Humans?". Speaker. AI club. Bishkek. November 22, 2023
- "Application of AI in Mental Healthcare". FTConference. San Francisco. November 2-3, 2023
- Women and Research. Visiting Scholar. Bard College. Annandale-On-Hudson, NY. March 6-10, 2023
- In AI We Trust. Book Reviewer. Yehuda Elkana Fellowship. Vienna, Austria. June 22-25, 2021
- #SayEnoughAsia. Workshop Lead. Oxfam. Bangkok, Thailand. January 20-22, 2020
- Game Changer Hackathon. Prague Civil Society. Bishkek, Kyrgyzstan. September 26-28, 2019
- Stanford Big Data by Prof. Jennifer Widom. Bishkek, Kyrgyzstan. September 11-13, 2019
- Transforming the Normal in Asia. Workshop Lead. Oxfam. Bangkok, Thailand. October 1-4, 2018

Teaching and Advising Experience

AUCA Writing and Academic Resource Center | Peer tutor | 06/2023 – present
Specialization: Academic Writing, Statistics, SPSS
- Delivered 12 hours of weekly one-on-one tutoring sessions.

Open Society University Network | Teacher Assistant | 09/2022 – 12/2022
Course: Feminism and Psychology

American University of Central Asia | Teacher Assistant | 10/2021 – 12/2022
Courses: SPSS and Statistics, Psychogenetics

AUCA Academic Advising Office | Peer Advisor | 10/2021 – 05/2022
- Provided academic advising to students (one-to-one sessions, workshops, and seminars).

Work Experience

EIWA, AI Doula | ML Engineer | 10/2023 – present
EIWA reached the top-5 result at the Glovo KG Startup Competition (out of more than 250 companies that applied).
- Integrated AI solutions into a chatbot that guides women on medical prescriptions during pregnancy.
- Applied knowledge graphs to guide decisions on postpartum mental health support.

[USAID WSpark Women in Tech](#) & Barys Bot | Full-Stack Web Developer | 05/2023 – 12/2023
- Implemented AI-driven features, tailoring machine learning algorithms to the Kyrgyz language.
- Contributed data in Kyrgyz to the open-access projects focused on [NLP in Kyrgyz language.](#)
- Developed, maintained, and optimized server-side applications (Python, Django, PostgreSQL, AWS).
- Created responsive, user-friendly web interfaces (HTML, CSS, JavaScript/React).
- Engaged in intensive training on startup acceleration hosted by leading professionals in Central Asia.

AUCA Writing and Academic Resource Center | Project Lead | 12/2021 – 05/2023
Kyrgyz Language Tutorials (WARC, 2021 – 2023). YouTube.
https://www.youtube.com/playlist?list=PL6qOovHuk47nc_FLA9hEWHNr9OvfY34s2
- Supervised the regular delivery of Kyrgyz language tutorials within a team of peer tutors.

USAID & Open Line | Campaign Developer | 06/2020 – 11/2020
- Executed the design of a social media campaign addressing domestic abuse in Kyrgyzstan.

- Programmed a platform that contacts victims of domestic violence with crisis centers (Python)
- Visualized data to extract insights and contributed to the review of advocacy documentation.

Grimwood | Summer Intern | 06/2019 – 08/2019

- Built and modified mobile games (Java, C#) applying essential programming patterns.

Additional Training

NLP (Hugging Face)**,** Algorithms 4.0 (Yandex), Data Engineering (EPAM), Digital Mapping (OSUN)

Community Service

PriMera Scientific Engineering (PSEN) | Board Member | 11/2023 – present

- Oversaw the peer review process, managing a team of reviewers to maintain timely reviews.

AUCA Student Senate | Chair | 10/2021 – 12/2022

Fields of work: mental health, crisis prevention, anti-harassment

- Directed work of committees and managed communication between students and administration.
- Served as an active member of the Faculty Senate, advocating for students' rights.

Brunch Club | Founder | 02/2023 – 10/2023

- Arranged community-building and advocacy events for women and LGBTQIA+ people in STEM.
- Initiated programming boot camps and learning activities based on oSTEM protocol.

@growthhungry | Project Lead | 04/2021 – 10/2021

@growthhungry by Taalai Djumabaev, Google Senior Software Engineer, helps MAANG applicants from KG.

- Conceptualized and implemented the company's infrastructure from scratch.
- Sustained the consistent production of content through networking sessions with MAANG employees.
- Recruited and onboarded new members, doubling the size of the original team.

Teenage and Youth for Justice and Equality | Co-lead | 06/2018 – 03/2020

- Coordinated staff, volunteers, and content contributors in the mental health awareness team.
- Conducted programming and math tutoring sessions for girls.
- Oversaw fundraising activities and managed the budget for annual grants.
- Supported international connections through networking with FRIDA Fund and Oxfam.

Kloop News Agency | Illustrator | 09/2019 – 11/2019

- Contributed illustrations for news articles addressing domestic violence in Kyrgyzstan.
  Domestic violence: https://kloop.kg/t/na-vidu-u-vseh/

Azattyq Media Company | Illustrator | 01/2019 – 06/2019

- Illustrated series of news articles "Investigation of the economic situation in Kyrgyzstan".
  Child labor: https://rus.azattyk.org/a/kyrgyzstan-education-child-labour/29937017.html
  Microcredits: https://rus.azattyk.org/a/pochemu-mikrokredity-ne-spasayut-ot-bednosti/30303155.html

Labrys Kyrgyzstan | Volunteer | 08/2016 – 05/2018

- Engaged in community outreach programs to promote the organization's services and events.

Languages

English (C1), Russian (native), Kyrgyz (B2), Turkish (A2), French (A2)