Sagyn Jumadildayev

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Experience

nFactorial Incubator **Almaty, Kazakhstan**

Full-stack Developer Internship *June 2023 - Aug 2023*

- Selected **among 4,100+** submitted applications from Central Asia, where **only 108 students** were accepted
- In the course of 10 weeks, developed an **AI-based** web app Freestyler using **React, FastAPI, OpenStreetMap, D3.js, OpenAI API, LangChain and advanced methods of prompt engineering**
- Project selected for Demo Day **among 20 from 108** other projects

Personal Projects

Automatic Speech Recognition of Russian and Kazakh Disordered Speech

ASR Research *Aug 2024 - Present*

- Collecting Russian and Kazakh speech samples from individuals with disorders like **Dysarthria** and **Cerebral Palsy**
- Developing a **custom Convolutional Neural Network** pipeline for training **personalized user ASR models** on **minimal disordered speech data**
- Fine-tuning and optimizing existing speech recognition models trained on **regular human speech datasets** such as OpenAI Whisper to create **accurate personalized user ASR models**
- Assesing and comparing the performances of models using **Word-Error Rate (WER)**

Freestyler - LINK

An AI-based web app *June 2023 - Dec 2023*

- During the 10 weeks of nFactorial Incubator, implemented an **AI-driven** tour guide system with a **3D globe interface** capable of providing and responding to location-specific questions
- Participated in nFactorial Incubator Demo Day **(top 20 projects out of 108)**
- Accepted to **Microsoft for Startups Founders Hub**, receiving $2,500 of OpenAI API credits and other perks
- Got 3rd place at INFOMATRIX-ASIA **(among 450 participants)**

L-Tromino Tilings

Number Theory and Combinatorics Research *June 2021 - June 2023*

- Project won the **first award in 8 years** for Kazakhstan at **Regeneron ISEF 2023** (Mu Alpha Theta Second Place Nomintation)
- Established the recurrence relations and congruences for the number of ways to fill the n $\times$ 7 grids with L-Trominos, given that one cell might either be present or missing
- Developed an efficient algorithm using **Dynamic Programming** and **Bitmasks** in **C++**

Achievements

- **2nd place award** and $1,000 prize at **Regeneron International Science and Engineering Fair 2023**, **the world's largest** international pre-college science competition. Awarded for my Mathematics Research
- **1st place** award at **Technocup** Competitive Programming Olympiad organized by **VKontakte**
- **1st place** at **Kazakhstan National Science Fair** for my Mathematics Research
- **1st place** at **Kazakhstan National Junior Olympiad in Informatics**
- **2nd place** at **Eurasian Team Olympiad in Informatics** among **321 teams of 3 people** from Shanghai Cooperation Organization nations.
- **3rd place** at **Kazakhstan National Olympiad in Informatics**
- **Demo Day Participation** in nFactorial Incubator, **among 20 out of 4,100+ people** from Central Asia
- **3rd place** in **INFOMATRIX-ASIA** for my project **Freestyler**, among **450 participants** from **Hong Kong**, **Kazakhstan**, **Kyrgyzstan**, and **Turkmenistan**

Technical Skills

Programming Languages: Javascript, Python, C++

Developer Tools & Technologies/Frameworks: Tensorflow, PyTorch, Keras, Pandas, Matplotlib, Librosa, scikit-learn, LangChain, Seaborn, React, TailwindCSS, Qt, Pygame, Bootstrap, Flask, SQL, SQLAlchemy, FastAPI, MongoDB, AWS, Git, npm

Languages: Kazakh (Native), Russian (Native), English (proficient), French (intermediate)