AIGUL SHARIP

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WORK EXPERIENCE

Bioinformatician/Researcher Mar 2019 – Present
Lab. of Bioinformatics and System Biology, Nazarbayev University Astana, Kazakhstan
- Performed whole-transcriptome and whole-genome analysis of Kazakhstani individuals
- Co-authored 10+ research publications, 7+ international internships and conferences (USA, Germany, Japan)
- Conducted statistical analysis of risk factors of the severity of coronary atherosclerosis from patient data
- *Technical Stack: R, Unix/Linux, Python, genomics and transcriptomic data analysis tools, biostatistics*

Software Engineer Mar - Sep 2024
BTS Digital Astana, Kazakhstan
- Contributed to the development of the *Ismet platform* for Kazakhtelecom Business users.
- Developed *Ismet Docs* platform to enhanced electronic document management.
- *Technical Stack: Java, Spring, SQL, JavaScript, Postgres, GitLab, MinIO, Jasper, Agile*

Software Engineer Jul 2022 – Jan 2024
Datanomix/Motio Dallas, Texas, USA
- Participated in the enhancement of *Soterre*, version control and deployment tool, designed for Qlik users.
- Executed the integration of external Qlik Sense platform functionalities for more user-friendly experience
- *Technical Stack: Java, Spring, JavaScript, ExtJS, SQL, Postgres, Tomcat, Docker, GitLab, Agile*

Full-stack Software Engineer participant Jun-Aug 2022
nFactorial Incubator, 10-week web development bootcamp Almaty, Kazakhstan
- Developed full-stack web app Recipe Generator for finding recipes with various functionalities
- *Technical Stack: React, JavaScript, JQuery, REST API, Bootstrap*

Software Engineer Intern Feb-Jun 2022
DAR Almaty, Kazakhstan
- Built web application with microservice architecture with Spring Cloud, OpenFeign, Eureka Service
- Developed back-end server side of Event Manager project
- Received job offer based on the performance during the internship
- *Technical Stack: Java, Spring Boot, Spring Data, Spring Cloud, SQL, Eureka Discovery Service, Elastic Search*

Research Assistant Jan 2017 - Mar 2019
Lab of Dr. Jeanette Kunz, Nazarbayev University Astana, Kazakhstan
- Contributed to the delivery of the research project "Phosphoinositide phosphate signaling networks: A novel therapeutic opportunity in breast cancer"
- Performed molecular biology experiments: design PCR primers, PCR, transfection, cell culturing, microscopy, image analysis, FACS, DNA isolation etc.

PROJECTS-COURSES

Software Engineer training Nov 2020 – Aug 2021
nFactorial School
- Completed nFactorial Start - Introduction to Computer Science, 8-week intensive program in Java, with **Gold Certificate of Achievement,** accomplished 11 Java projects
- Improved problem-solving skills at 8-week intensive nFactorial Algorithms and Data Structures course

Java Backend Developer training Oct 2021 – Mar 2022
BitLab Academy & OneLab
- Acquired a solid understanding of front-end development essentials using HTML, CSS, and JavaScript
- Explored the core principles of back-end development utilizing Java EE and Spring Frameworks
- Engineered an **Online Pharmacy** web application leveraging Spring Boot, Spring Data, and Spring Security

Data Scientist training Jun–Aug 2021
Yessonov Data Lab, 8-week summer school for Data Scientist
- Acquired skills in data preprocessing, visualization and interpretation with Python and R
- Covered the fundamentals of machine learning, neural networks
- Mastered the techniques of statistical analysis and modelling

Certifications from completed courses: https://github.com/aigulsharip/certificates

EDUCATION

Nazarbayev University (NU) 2017 -2019

- Master of Biological Sciences, **GPA 4.0/4.0**, with the Highest distinction
- Honors: Dean's list for Spring & Fall 2018; **Receival of Honor Diploma from President of Kazakhstan**

Nazarbayev University 2013 –2017

- Bachelor of Biological Sciences, GPA 3.66/4.0
- Honors: Dean's list for Fall 2015 and Fall 2017 semesters

TECHNICAL SKILLS

Technical Skills	Java, JavaScript, R, Python, Unix/Linux, HTML, CSS, SQL, Postgres, React
Frameworks/Libraries	Spring Framework, Java EE, Git, REST API, JUnit, Postman, Docker, Kubernates, Microservices, OpenFeign, Eureka, Apache Kafka, ElasticSearch Agile, Design Patterns, SOLID
Languages	Fluent in Kazakh, Russian and English, Intermediate German, Basic French

EXTRACURRICULUM ACHIEVEMENTS

- Received 10+ PhD offers (ETH Zurich/Uni. of Zurich, INPhINIT fellowship, DKFZ, Uni. of Copenhagen, 3 Marie-Curie fellowships, Institut Curie etc.)
- Awarded comprehensive fellowship to participate the Yessenov Data Lab program, summer 2021
- Travel award from School of Science and Technology, NU for internship at DRFZ, Germany, July-August 2018
- Scholarship for Research Internship from IRCMS, Kumamoto University, Japan, Nov-Dec 2017
- Aegean Conference at the 8th International Conference on Autoimmunity, Rhodes, Greece, Sep 2017
- Third prize in the Excellent Article Award in the 5th Guangzhou International Symposium., China, Dec 2018
- Winner of Yessenov Foundation Summer Research Fellowship for internship at UCSF, USA, Jan 2016
- Silver medal for NU Biology team at International iGEM competition, Boston, USA, Sep 2015

PUBLICATIONS

1. **Sharip, A.,** & Kunz, J. (2025). Mechanosignaling via Integrins: Pivotal Players in Liver Fibrosis Progression and Therapy. Cells. Pending minor revision
2. **Sharip, A.**, Rakhimova, S., Molkenov, A., Ashenova, A., Kozhamkulov, U., Akhmetollayev, I., ... & Kairov, U. (2024). Transcriptome profiling and analysis of patients with esophageal squamous cell carcinoma from Kazakhstan. Frontiers in Genetics, 15, 1249751.
3. Kairov, U.*, Molkenov, A*., **Sharip, A.***, Rakhimova, S., Seidualy, M., Rhie, A., ... & Akilzhanova, A. (2022). Whole-genome sequencing and genomic variant analysis of Kazakh individuals. Frontiers in Genetics, 13, 902804. * Equal contribution
4. **Sharip, A.**, Mukhatayev, Z., Chunikhina, D., Baglanova, M., Poddighe, D., Ainabekova, B., ... & Kunz, J. (2022). Microorganisms in the Pathogenesis and Management of Ankylosing Spondylitis. In Role of Microorganisms in Pathogenesis and Management of Autoimmune Diseases: Volume I: Liver, Skin, Thyroid, Rheumatic & Myopathic Diseases (pp. 459-487). Singapore: Springer Nature Singapore.
5. Mukhatayev, Z., **Sharip, A.**, Nurgozhina, A., Chunikhina, D., Poddighe, D., Ainabekova, B., ... & Kunz, J. (2022). Microorganisms in the Pathogenesis and Management of Spondyloarthritis. Role of Microorganisms in Pathogenesis and Management of Autoimmune Diseases: Volume I: Liver, Skin, Thyroid, Rheumatic & Myopathic Diseases, 419-458.
6. Seisenova, A., Daniyarov, A., Molkenov, A., **Sharip, A.**; Zinovyev, A., Kairov, U. Meta-Analysis of Esophageal Cancer Transcriptomes Using Independent Component Analysis. Frontiers in Genetics 2021, 12
7. Karabayev, D., Molkenov, A., Yerulanuly, K., Kabimoldayev, I., Daniyarov, A., **Sharip, A.**, Seisenova, A.; Zhumadilov, Z.; Kairov, U. re-Searcher: GUI-based bioinformatics tool for simplified genomics data mining of VCF files. PeerJ 2021, 9, e11333,
8. Kairov, U., Molkenov, A., Rakhimova, S., Kozhamkulov, U., **Sharip, A.**, Karabayev, D., Daniyarov, A., H.Lee, J., D.Terwilliger, J., Akilzhanova, A., Zhumadilov, Z. Whole-genome sequencing data of Kazakh individuals. BMC Research Notes 2021, 14, 45
9. **Sharip, A.,** & Kunz, J. (2020). Understanding the pathogenesis of spondyloarthritis. Biomolecules, 10(10), 1461.
10. Sharip, A., Abdukhakimova, D., Wang, X., Kim, A., Kim, Y., **Sharip, A.**, ... & Xie, Y. (2017). Analysis of origin and protein-protein interaction maps suggests distinct oncogenic role of nuclear EGFR during cancer evolution. Journal of Cancer, 8(5), 903.
11. Kim, Y., Kim, A., Sharip, A., **Sharip, A.,** Jiang, J., Yang, Q., & Xie, Y. (2017). Reverse the resistance to PARP inhibitors. International journal of biological sciences, 13(2), 198.

RESEARCH EXPERIENCE

Bioinformation at National Laboratory Astana, NU Sep 2018 - Present

Prof. Dr. Ulykbek Kairov, Lab. of Bioinformatics and System Biology, NU Astana, Kazakhstan

- conducted whole-genome sequencing and variant analysis of Kazakh individuals, identifying genetic variants linked to metabolic and neurodegenerative diseases
- performed transcriptome profiling of Kazakhstani ESCC patients, discovering key dysregulated pathways and potential biomarkers for early diagnosis and precision therapies.
- nalyzed statistical risk factors influencing the severity of coronary atherosclerosis from patient data

Laboratory research for Master Thesis "The role of bacteria and HLA-B27*05 allele on the pathogenesis of spondylarthritis" Aug 2017 - May 2019

Prof. Jeannette Kunz and Prof. Christian Schoenbach, NU Astana, Kazakhstan

- immunoinformatics analysis of potential Brucella epitopes, cell-based epitope binding assays and FACS analysis of git microbiota

Research internship at German Rheumatism Research Center (DKFZ) Jul - Aug 2018

Lab. of Dr. Kruglov, DKFZ Berlin, Germany

- analysis of gut microbiota of AS patients and healthy controls by staining and sorting of flow cytometry DB Influx, stimulation experiments with human PBMC cells

Research internship at Kumomoto University Nov-Dec 2017

Prof. Christian Schoenbach, IRCSM, Kumomoto Univeristy Kumomoto, Japan

- analysis of gut microbiota of AS patients and healthy controls by staining and sorting of flow cytometry DB Influx, stimulation experiments with human PBMC cells

Laboratory research for Bachelor Thesis "Regulation of Focal Adhesion Assembly and Lamellopodia Dynamics with WNT Signalling Ligands" Aug 2016 - May 2017

Prof. Adarichev and Prof. Jeannette Kunz, NU Astana, Kazakhstan

- cell culturing and analysis rheumatoid arthritis cell lines with immunofluorescence techniques, optimize high-resolution time-lapse microscopy, plasmid isolation

Research internship at University of California San Franciso (USCF) May - Aug 2016

Lab. of Prof. Rosemary Akhurst, Helen Diller Comprehensive Cancer Center, USCF San Francisco, USA

- gene cloning by expression vectors, DNA Restrictions enzyme digestions, DNA extraction from tissue and genotyping, primary cell culturing, siRNA transfection, Western blot