ELLA Ya. TIURIUMINA
Erlangen, Germany, *eyatyuryumina@gmail.com*

With over a decade of experience in academia (computer science, breast cancer) and in industry (railways), I am passionate about solving complex problems through thinking out of the box and designing/implementing digital solutions that bring transparency and support business decisions with data. Working from different countries and witnessing the business insights from the heart, I have strong skills in understanding the cultural differences, identifying and addressing local business needs via bringing a holistic view and ensuring the alignment with global strategy. What drives me the most? To deliver laser focused results, shaping every challenge into opportunity, but the most important for me is to bring value for the people across the world and always contribute into the world of future generations with medical research, sustainability projects, mentoring of young female leaders, and charity.

EMPLOYMENT HISTORY

ENTERPRISE ARCHITECHT, SMO GmbH CS 2024 – curr

Responsibilities: to **create** a **strategy** and **vision** for transformation of the **IT landscape** 'from projects to products'; to develop and design comprehensive solutions that align with the organization's **business objectives** and IT strategy; to **research** and evaluate new **technologies**, frameworks, and tools to determine their suitability for the organization's needs; to **collaborate** with stakeholders to gather and analyze business requirements, translating them into technical specifications and solution designs.

FIELD EXPERIENCE MANAGER, SMO GmbH CS 2024 – curr

Responsibilities: to **develop** and implement key performance indicators (**KPIs**) to measure the **performance** and **effectiveness** of field operations; to develop and deliver **training programs** for field personnel to enhance their technical skills, knowledge, and competency; to develop/support regular reports, dashboards, and performance metrics to provide **insights** into **field operations** and support **decision-making**; to conduct **root cause analysis** and trend analysis to identify **patterns** and drive **continuous improvement** efforts; to **collaborate** with project managers and **cross-functional** teams to support project delivery and execution.

GLOBAL TALENT PROGRAMM, SMO GmbH CS 2023 – 2024

Responsibilities: to **create** a G2M **strategy** for digital tools and deliver the storyline 'from strategy to reality' at the international management conference; to **rebrand** the digital solution with a focus to **sustainability** according to the strategy, provide market analysis, market research, marketing plan, **market segmentation**, and **business case**.

SENIOR KEY EXPERT IN ALGORITHMS AND APPLICATIONS DEVELOPMENT, SMO GmbH CS 2021 – curr

Responsibilities: to provide consultancy across Siemens

LEAD OF RESEARCH AND DEVELOPMENT TEAM, SENIOR DATA SCIENTIST, SMO CS, Moscow 2020 – 2021

Stack: **backend**: python (pandas, scikit-learn, numpy, matplotlib, sci-py, tensorflow, keras, nuxeo); **database**: SQL (PostgreSQL, MySQL, Oracle); **host:** cloud/server via docker (AWS: ec2, SageMaker, Elastic Beanstalk, Athena, S3); **presentation of results**: Spotfire; PowerBI; **frontend**: vue, js, swift; **documentation**: JIRA, github

DATA SCIENTIST, SMO CS, Moscow 2017 – 2019

SENIOR LECTURER 2020 – 2021

Mathematical Statistics, lectures and seminars, in English, for the 1st year of Master Program of Computer Science, Faculty of Computer Science, NRU HSE Moscow, RF

Combinatorics, Graphs and Computational Logic, seminars, in English, for the 3rd year of Bachelor Program of Applied Mathematics and Informatics, Faculty of Computer Science, NRU HSE

Data Base Theory, seminars, for the 2d year of Bachelor Program, Faculty of Innovation and High Technology, MIPT

LECTURER 2018 – 2019

Data Base Theory, seminars, in Russian, for the 3rd year of Bachelor Program of Applied Mathematics and Informatics, Faculty of Computer Science, NRU HSE Moscow, RF

Data Base Theory, seminars, for the 1st year of Bachelor Program, Faculty of Innovation and High Technology, MIPT

TEACHING ASSISTANT 2015 – 2018

National Research University Higher School of Economics Moscow, RF

- Data Base Theory, (A. Neznanov, PhD, AP), Erlang Programming (V. Yakovlev, PhD, AP), Languages of Software Development (V. Yakovlev, PhD, AP), Mathematical Analysis (A. Nikitin, PhD, AP)

EDUCATION

PHD IN APPLIED MATHEMATICS (defence stage) 2019-2022

National Research University Higher School of Economics (NRU HSE), Moscow, RF

- Senior Thesis: "*The Personalised Mathematical Growth Model of Primary Tumor and Secondary Distant Metastases with Different Growth Rates for Patients with Breast Cancer*"

MASTER OF COMPUTER SCIENCE (cum laude) 2017-2019

System and Software Engineering, GPA 9.18/10 (A)

National Research University Higher School of Economics (NRU HSE), Moscow, RF

- Senior Thesis: "*The Mathematical Model for Predicting the Development of the Tumor Growth Process of Breast Cancer*"

BACHELOR OF COMPUTER SCIENCE 2013-2017

Applied Mathematics and Information Science, GPA 8.14/10 (A)

National Research University Higher School of Economics (NRU HSE), Moscow, RF

- Senior Thesis: "*Mathematical Methods and Software Tools for Prediction of Breast Cancer Developing*"

RESEARCH EXPERIENCE

JUNIOR RESEARCH FELLOW 2020 – 2022

International Laboratory for Intelligent Systems and Structural Analysis at NRU HSE Moscow, RF

- Provided analysis of medical data, with emphasis on prediction opportunities, also taking into account the selection of treatment design using machine learning.

RESEARCH ASSISTANT 2015 – 2019

International Laboratory for Intelligent Systems and Structural Analysis at NRU HSE Moscow, RF

- Provided analysis of medical data. Became familiar with concept analysis in cancer sphere
- Organised and ran workshops and events about Data Analysis in Medicine
- Coordinated volunteers on Concept Lattices Analysis 2016

PERSONAL PROJECT 2015 – curr

- Built iOS app for predicting the period of manifestation of secondary distance metastases in breast cancer patients with/without metastases in lymph nodes and survival period in breast cancer patients with primary metastases.
- Certificate of the software registration (patent) *2018612104, 2021616943, 2021667620*

SUMMER SCHOOL 2017

Mathematical Oncology Laboratory Universidad de Castilla-La Mancha, Spain

- Theory, practice and development of research project about mathematical modelling and data analysis of data on brain metastases before and after radiosurgery under supervision of Prof. *Víctor M. Pérez-García,* PhD, Head of the Mathematical Oncology Laboratory, Head of the Mathematics Department

PUBLICATIONS (journals and conference proceedings)

Tyuryumina EY. *The CoMPaS exponential growth model: predicting tumor growth and recurrence* // in: VJOncology. 2021

Tyuryumina EY. *Mathematical modelling to predict recurrence periods for secondary metastases in breast cancer* // in: VJOncology. 2021

Tyuryumina EY, Neznanov AA, Turumin JL. *Predictive mathematical modelling of recurrence periods for the secondary distant metastases in patients with ER/PR/HER2/Ki-67 subtypes of breast cancer* // in: The Breast. Vol 56. Elsevier. 2021. P S60-S61. Q1

Tyuryumina EY, Neznanov AA, Turumin JL. *A mathematical model to predict the diagnostics periods for the secondary distant metastases in patients with ER/PR/HER2/Ki-67 subtypes of breast cancer* // 30th American Medical Informatics Association (AMIA 2020), Annual Symposium. – S68: Oral Presentations: Pattern Discovery and Classification. CORE A

Tyuryumina EY, Neznanov AA, Turumin JL. *A mathematical model to predict the diagnostics periods for the secondary distant metastases in patients with ER/PR/HER2/Ki-67 subtypes of breast cancer* // in: Proceedings of the 30th American Medical Informatics Association (AMIA 2020), Annual Symposium. AMIA. 2020. USA. P. 1653. Q3

Tyuryumina EY, Neznanov A., Turumin JL. *A Mathematical Model to Predict Diagnostic Periods for Secondary Distant Metastases in Patients with ER/PR/HER2/Ki-67 Subtypes of Breast Cancer* // in: Cancers. Vol 12(9). MDPI. 2020. P 1-20. Q1

Tyuryumina EY, Neznanov A. *The mathematical model for predicting the earliest diagnostics period of the secondary distant metastases growth process of breast cancer* (abstract) // in: The Breast. Vol 44. Elsevier. 2019. P S88-S89. Q1

Tyuryumina EY, Neznanov A. *Consolidated mathematical growth model of the primary tumor and secondary distant metastases of breast cancer (CoMPaS)* // in: PLoS ONE. 2018. P. 1-16. Q1

Tyuryumina EY, *Consolidated mathematical growth Model of Breast Cancer CoMBreC* // in: WDAM-2017. Workshop on Data Analysis in Medicine. Kalpa Publications in Computing. 2018. P. 19-42

Tyuryumina EY, Neznanov A. *On consolidated predictive model of the natural history of breast cancer considering primary tumor and primary distant metastases growth* // in: Proceedings - 2017 IEEE International Conference on Healthcare Informatics, ICHI 2017, IEEE Computer Society, 2017, pp. 484–489. Scopus

Tyuryumina EY, Neznanov A. *On consolidated predictive model of the natural history of breast cancer: primary tumor and secondary metastases in patients with lymph nodes metastases* // in: ACM International Conference Proceeding Series, ACM Computer Science. 2017. P. 60-66. Scopus

Tyuryumina EY, Neznanov A. *On consolidated mathematical growth model considering primary tumor and secondary metastases* (abstract) // in: The Breast. Vol 32. ELSEVIER. 2017. S106. Q1

CONFERENCES (without publications)

6th Annual Metastatic Breast Cancer Conference, poster presentation Predicting the Earliest Diagnostics Period for the Secondary Distant Metastases Growth Process of Breast Cancer (T1-3N0-3M0) via the Mathematical Models COMPAS and COM-III, 2019, Scottsdale, AZ, USA

AWARDS, GRANTS

The Best Teacher Assistant (2019)**,** Theory of Database, Neznanov AA (Associate Professor, PhD), NRU HSE, Moscow, Russia

Silver Chick, Gold HSE (2018), to award the best students from the whole NRU HSE, Moscow, Russia

Scholarship of President of Russian Federation (2018), to support young scientists and postgraduate students engaged in an advanced research and development in priority areas of the modernization of the Russian economy, 13 scholarships for the whole Faculty of Computer Science NRU HSE, Moscow, Russia

Scholarship of Ilya Segalovich (2018), to support technology enthusiasts and science young scientists, 15 scholarships for the whole Faculty of Computer Science, NRU HSE, Moscow, Russia

Scholarship for achievements in scientific activity (2017, 2018, 2019), to support young scientists, NRU HSE, Moscow, Russia

Best Student Paper (2017), 7th Digital Health (2017), *ACM Awards*, scientific prize, UCL, London, UK

Grant for Scientific Research (2017), summer education, by Mathematical Oncology Laboratory Universidad de Castilla-La Mancha

Finalist (2016), *Scientific-Research Students Papers Competition,* "Information technologies and computer systems", Kazan, Russia

2nd place (2015)**,** *Scientific-Research Students Papers Competition*, Computer science, National Research University Higher School of Economics, Moscow, Russia

1st place (2011), *Informatics*, Olympiad in Informatics, Filial of Plekhanov Russian University of Economics, Irkutsk, Russia

OTHER EXPERIENCE

Chartered Financial Analyst (CFA) program (2020 - curr), online

Tennis School (2010-2013, Irkutsk, Russia); (2017, Castilla-La Mancha, Spain); (2013-2021, Moscow, Russia); (2021-curr, Erlangen, Germany)

What? Where? When? (2010-2013), Irkutsk, Russia
Member of Lyceum Team. Participation in Regional competitions.
It is an intellectual game well known in Russian-language media and other CIS states since the mid-1970s. Today it also exists as a competitive game played in clubs organized by the World Association of Intellectual Games.

Ballet Artist (2010-2012), Regional Musical Theater named after. Zagursky, Irkutsk, Russia

Ballet School (2002-2010), Regional Musical Theater named after. Zagursky, Irkutsk, Russia
Awards:

- *Laureate-finalist* in nomination classical dance **soloist** at **Youth America Grand Prix** International Ballet and Contemporary Dance Competition for Youth (New York, USA, March 21-25, 2010)
- *Laureate-finalist* in nomination classical dance **ensembles** at **Youth America Grand Prix** International Ballet and Contemporary Dance Competition for Youth (New York, USA, March 21-25, 2010)
- *Silver Medal* in nomination contemporary dance **duet** at International choreographic festival-competition **Tanz Olymp** (Berlin, Germany, February 18-22, 2009)
- *Silver Medal* in nomination contemporary dance **ensembles** at International choreographic festival-competition **Tanz Olymp** (Berlin, Germany, February 18-22, 2009)
- *Laureate-finalist* at All-Russian competition of children's musical theatres named after. Natalia Sats “Blue Bird” (Moscow, Russia, December, 2008)
- *Laureate of the 1st degree* in nomination classical dance **soloist** at International festival-competition of music and dance “Talents Without Borders” (Salou, Spain, June, 2008)
- *Laureate of the 1st degree* in nomination classical dance **duet** at International festival-competition of music and dance “Talents Without Borders” (Salou, Spain, June, 2008)
- *Gran Prix* in nomination classical dance **ensembles** at International festival-competition of music and dance “Talents Without Borders” (Salou, Spain, June, 2008)
- *Laureate of the 1st degree* in nomination classical dance **soloist** at V International Competition of Choreographic Groups “Petersburg Snowstorm” (St. Petersburg, Russia, January, 2008)
- *Laureate of the 2d degree* in nomination classical dance **ensembles** at V International Competition of Choreographic Groups “Petersburg Snowstorm” (St. Petersburg, Russia, January, 2008)
- *Laureate of the 1st degree* in nomination classical dance **ensembles** at All-Russian festival-competition of amateur classical dance groups (Novosibirsk, Russia, November, 2007)
- *Soloist diploma* at IX International Festival of Children's Creativity (Obzor, Bulgaria, August, 2007)
- *Laureate of the 1st degree* in nomination classical dance ensembles at International competition “Rose of the Winds” (Lencroitre, France, April, 2007)

Ballets: Nutcracker: Mari (2009), dolls (2009), children (2004); Cinderella: dwarf (2005); Cipollino: Radish (2006-2008); Thumbelina: Thumbelina (2008-2010).

Chess School (2002-2007), Irkutsk, Russia
Awards: siver and bronze medals at regional competitions

LANGUAGES

Russian (native), English (C2), German (B2), French (A1), Spanish (A1), Italian (A1)

MEMBERSHIPS

AMIA, IEEE, ACM, Women in Mathematics, Google's Women Techmakers, Siemens Female Data Science Network

HOBBIES

Opera, classical literature, golf, skiing, sky-diving, car-racing, bouldering, beach volleyball

Scopus Author ID: *57195103709*