



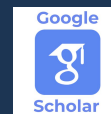
Nikola Tchipev, PhD MBA

I am passionate about developing high-quality and high-performance software and data solutions to help my clients build scalable and reliable products.

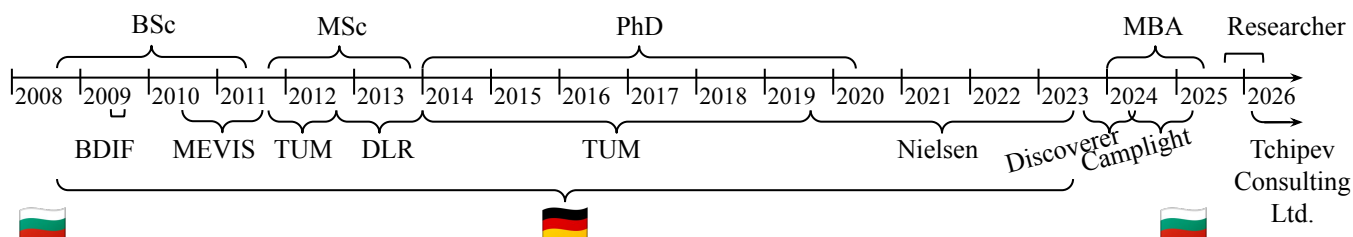
- PhD from TU Munich
- 15+ years of programming and math
- world record largest MD simulation; award from President of Bulgaria

Contact

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Timeline



Career

- Founder, Software and Business Solutions Consultant, Tchipev Consulting Ltd.** 02.2026 –
Consultant for Bulgaria and the DACH region. Custom solutions, data science, digitalization.
- Researcher - Part time, IICT, Bulgarian Academy of Sciences** 09.2025 – 03.2026
Work on scientific publications on high-performance computing with C++, OpenMP and supercomputers.
- Contract work, Camplight, remote, Bulgaria** 05.2024 – 03.2025
Infineon Technologies, 7 months: Optimized CAD tools using C++, javascript. Achieved 500x speed-up.
Akooda, Inc., 5 months: Client data analysis using Python, MongoDB, Metabase, GCP.
- Expert HPC Software, Bulgarian Supercomputer Discoverer** 09.2023 – 05.2024
Performed HPC programming with C++ and SLURM. Support and communication with users. Reports.
- Data Engineer, Senior Software Engineer, Nielsen, Munich, Germany** 09.2019 – 06.2023
Data Scientist (2022-2023): Assigned **data engineering** tasks, due to strong engineering background. Worked on
* ETL design and optimization of a new algorithm for aggregating marketing response models in Pandas,
* reduction of resource consumption of a large Luigi - Pyspark DAG for multi-touch attribution
* redesign of legacy Spark RDD pipeline to use Spark Dataframes and switch in-software to Pandas when data sets were small enough; product for multiple regression on large datasets.
Senior Software Engineer (2019-2022): Backend development of a database for marketing campaign outcomes. Software development using microservices, AWS, Java, SQL, CICD, Bash. Successful product [launch](#).
- Research Associate, Technical University of Munich (TUM), Germany** 01.2014 – 08.2019
Worked on 2 projects for BMBF and 2 projects for Intel corporation. Performed [world's first simulation of \$2 \times 10^{13}\$ particles](#). Code ran at > 1 PFLOP/sec, 0.7 PByte RAM, on 9 000 processes / 300 000 CPU threads. Used C++, Intel intrinsics, OpenMP, MPI, Matlab, Fortran, Bash. Developed an implementation of the Fast Multipole Method. See next page for research achievements.
Taught tutorials, practical courses and seminars (18 total). Organized tutorials and exams for courses with up to 400 students and 10 tutors. Supervised student assistants, Bachelor's and Master's theses (16 total).
- Student Assistant, MSc Thesis, German Aerospace Center (DLR), Oberpfaffenhofen** 10.2012 – 12.2013
Worked on aircraft wake vortex models and simulations via C++, Fortran, Octave, Bash, MPI, Gnuplot.
- Student Assistant, TUM, Germany** 10.2011 – 09.2012
Parallelized C++ MD code for up to 32 768 cores via MPI. Developed tests via Python, Bash and Jenkins.
- Intern, Student Assistant, Fraunhofer MEVIS, Bremen, Germany** 07.2010 – 08.2011
Designed workflow for patient-specific blood flow simulations, using C++, Python, MPI and MevisLab.

Education

Executive MBA , American University in Bulgaria, Blagoevgrad	01.2024 - 05.2025
Thesis “Razbor.bg: A News Intelligence and Discussion Platform”	
Elective courses: Project Management, Win-Win negotiations. GPA: 5.59 (maximum 6.00).	
PhD Computer Science , TUM, Germany	01.2014 – 04.2020
Thesis “Algorithmic and Implementational Optimizations of Molecular Dynamics Simulations for Process Engineering”, supervised by Prof. Dr. Hans-Joachim Bungartz	
Presentations at conferences in Germany, Czechia, Austria and USA.	
Co-authored 13+ publications; 400+ citations; h-index 9. See Google Scholar profile .	
MSc Computational Science and Engineering , TUM, Germany	10.2011 – 10.2013
Thesis “Numerical Simulations of Wind Impact on Decay and Transport of Wake Vortices of Landing Aircraft”, supervised by Dr. Frank Holzäpfel, DLR.	
Focus on computational fluid dynamics and machine learning. GPA: 1.4.	
BSc Mathematics , Jacobs University Bremen, Germany	09.2008 – 06.2011
Thesis “Parallel Implementation of the Lattice-Boltzmann Method for Fluid Flow in a Porous Medium: Application to Flow Over Microtopography”, supervised by Prof. Dr. Arzhang Khalili.	
Focus on physics and computer science. GPA: 1.5. Member of the president’s list for the academic years 2009/2010 and 2010/2011 for high GPA.	
National High School of Mathematics and Sciences Acad. L. Chakalov, Sofia	09.2003 – 06.2008
Focus on mathematics and computer science. Merit scholarship. GPA: 5.94 (maximum 6.00).	

Awards and achievements

John Atanasoff Diploma , Sofia, Bulgaria	10.2020
Second place in national John Atanasoff Award contest for 2020. Diploma from Rumen Radev, President of Bulgaria for contributions to the field of computer science and setting a world record for largest particle simulation.	
TaLPas project awarded €1,400,000 grant , Berlin, Germany	01.2017
Started new auto-tuning library . Received over €1,400,000 funding from German Federal Ministry of Education and Research within TaLPaS project and others.	
Research Science Institute 2007 , Massachusetts Institute of Technology, Cambridge, USA	06.2007
Won first place at national high school conference in Plovdiv, Bulgaria and was selected to represent Bulgaria at a summer program at the Massachusetts Institute of Technology.	

Technical skills

expert	C/C++, single-instruction-multiple-data programming (Intel Intrinsics), shared-memory programming (OpenMP), distributed programming (MPI)
advanced	Python, Java, SQL, Pandas, Numpy, Scipy, PySpark, Matlab/Octave, Fortran, Bash, CICD, Microsoft Office
hands-on	Looker Studio, MongoDB, Metabase, JavaScript, GCP, AWS, Gitlab CI, Jenkins

Soft skills

excellent written and oral communications skills
agile project management
leadership

Languages

English	fluent
German	fluent
Bulgarian	native

Hobbies

dancing
swimming
fitness