







General Information

Full Name	Damian Barabonkov
Email	damianb@alum.mit.edu
Phone	+49 1522 2600 341
Address	Strassburger Str 7g, Berlin, Germany, 10405
Programming	     
Languages	English, Bulgarian, German, Spanish, Russian

Education

2020 - 2021 Cambridge, MA, USA	Masters of Engineering (MEng) Massachusetts Institute of Technology <ul style="list-style-type: none">Computer ScienceMasters Thesis<ul style="list-style-type: none">Guarda — A web application firewall for WebAuthn transaction authenticationGPA 5.0/5.0
2016 - 2020 Cambridge, MA, USA	Bachelor of Science Massachusetts Institute of Technology <ul style="list-style-type: none">Computer Science and EngineeringGPA 4.9/5.0

Experience

2021 - PRESENT Berlin, DE	Software Engineer QuantCo Inc. <ul style="list-style-type: none"><i>Project:</i> Lead client-facing machine learning product<ul style="list-style-type: none">Project interactively displays machine learning predictions to clientCollaborate and coordinate with multi-disciplinary team of product, engineering and UI talentFactor in client feedback when developing productOrchestrate containerized backend systems to ensure high availability and correctness of serviceTest rigorously with various levels of staging environments before pushing to production<i>Project:</i> Develop internal feature engineering framework<ul style="list-style-type: none">Framework handles feature engineering of pricing and risk-assessment models for two large German car insurers forming <i>5%</i> of total market shareIncreased productivity of data scientists using framework with a near <i>10x</i> performance gain when performing incremental feature computationsProfiled existing code to address performance pain pointsDiagnose, isolate, report and resolve bugs throughout the entire tech stackOpen-source contributions to Python packages: Pandas, Numpy, Kartothek<i>Project:</i> groupstorm — open-source, hyper-fast and flexible DataFrame group by<ul style="list-style-type: none">Implements group by and aggregation operations with benchmarked <i>479x</i> the speed of `Pandas`Dropped development latency of data scientists from ~30 minutes down to less than a minute<i>Project:</i> conda-comply — open-source software license compliance checker<ul style="list-style-type: none">Automates error-prone process of asserting software license compliance of company's software productsAlleviates need for complicated and cumbersome licensing training for the engineersImproves the company's copyright compliance and legal conformity<i>Project:</i> Automate recruiting coding challenge takehome submissions<ul style="list-style-type: none">Streamlined engineering recruiting workflow by automating coding challenge submissionsImproves the company's security and General Data Protection Regulation (GDPR) compliance
2020 Karlsruhe, DE (remote)	Machine Learning Engineer QuantCo Inc. <ul style="list-style-type: none"><i>Project:</i> Optimize data pipelines of Python machine learning framework<ul style="list-style-type: none">Profiled existing code to identify and resolve performance bottlenecksImproved speed of pipelines by <i>470%</i> in best cast and <i>115%</i> in worst caseContributed to Python language codebase and Joblib Python libraryLed active communication to ensure efficient development velocity
2019 Singapore, SG	Supply Chain Researcher Singapore — MIT Alliance for Research and Technology <ul style="list-style-type: none"><i>Project:</i> Design mixed integer programming model to optimize redistribution strategies for dockless bike sharing within Singapore<ul style="list-style-type: none">Employed statistical processes and mixed integer programming for optimization to find best redistribution configurationsSubmitted publication to <i>Transportation Research Board</i> (TRB) journalAccepted and exhibited as a poster presentation at TRB conferenceCollaborated in a team of three members respective of strengths and abilities
2018 Menlo Park, CA, USA	Performance and Capacity Engineer Facebook Inc. <ul style="list-style-type: none"><i>Project:</i> Engineer existing profiler to measure additional performance metrics<ul style="list-style-type: none">Aggregated database usage metrics from affected services across FacebookTuned database utilization of production services in order to improve performance with large cost-saving consequences

Open Source Projects

2023	conda-comply <ul style="list-style-type: none">Check conda environment dependencies for compliance with permissive, copyleft or other user-defined license sets
2023	groupstorm <ul style="list-style-type: none">A hyper-fast library in Python to group candidate DataFrame rows against every row in a reference DataFrame according to user-supplied constraints
2022 downloads 2k	algopytest <ul style="list-style-type: none">A framework which hides away all of the complexity and repetitiveness that comes with testing Algorand Smart Contracts
2021	guarda-firewall <ul style="list-style-type: none">A proxy firewall prototype for RESTful services to easily support WebAuthn two-factor authentication

Teaching Engagements

2021 Undergrad Course	Computability and Complexity Theory (6.045) <ul style="list-style-type: none">Teaching Assistant with office hours, recitation and assignment dutiesCo-created entire year's curriculum of homework assignments and exams
2020 Graduate Course	Theory of Computation (18.404) <ul style="list-style-type: none">Teaching Assistant with office hours, recitation and assignment duties
2019 Undergrad Course	Software Performance Engineering (6.172) <ul style="list-style-type: none">Curriculum Developer with task to redesign first of four lab assignmentsLab assignment still in active use
2019 Undergrad Course	Computation Structures (6.004) <ul style="list-style-type: none">Lab Assistant with office hours duties
2018 Undergrad Course	Software Performance Engineering (6.172) <ul style="list-style-type: none">Teaching Assistant with office hours and assignment duties

Academic Interests

Computer Systems

- Performance Engineering
- Distributed Systems
- Computer Systems Security
- Operating Systems

Theory of Computation

- Computability Theory
- Complexity Theory

Personal Interests

Sports and Athletics: Cycling, Inline Skating, Weight Training

Arts and Culture: Language Learning, Latin Dance, Travel

Favorite Reads: Crime and Punishment, The Master and Margarita, All Quiet on the Western Front