Nicholai Dimov

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Education

Washington University in St. Louis — *St. Louis, MO*

M.S. in Computer Science — *May 2024*

B.S. in Computer Science and Mathematics, Minor in Linguistics

- Overall GPA 4.00/4.00, Arthur Holly Compton Fellow (Full-Tuition merit scholarship), Dean's List all semesters
- Relevant Coursework: *CS Applications:* High Performance Computing Systems, Operating Systems, Multi-Paradigm Programming in C++, Translation of Computer Languages (Compilers), Systems Software, Machine Learning, Programming Systems and Languages, Natural Language Processing
  CS Theory: Computational Geometry, Modeling and Performance Evaluation of Computer Systems (Queueing Theory), Data Structures and Algorithms, Automata and Complexity, Combinatorial Optimization, Coding and Information Theory
  Math: Time Series Analysis, Optimization, Financial Mathematics, Linear Algebra, Modern Algebra, Differential Equations, Probability and Statistics, Number Theory and Cryptography

Experience

Clay *Software Engineer* — *New York, NY*

- Sculpting the search experience at Clay, owning full-stack product initiatives to improve usability and data quality — *Jun 2024 – now*

Matroid *Software Engineering Intern* — *Palo Alto, CA*

- Researched, designed, and implemented statistical models for resource utilization of computer vision ML models across cloud and on-prem deployments. Reduced server costs while upholding consistent high throughput at scale — *Jun – Aug 2023*
- Ideated and implemented live monitoring system to remove system degradation at high load

Meta *Software Engineering Intern* — *Seattle, WA*

- Implemented novel optimization framework to minimize waste of limited power capacity for placing datacenter server racks — *May – Aug 2022*
- Lowered size of mixed integer linear programming model by 40%, reducing computational load of 200+ runs per day

MealMe *Software Engineering Intern* — *San Francisco, CA*

- Architected and built REST APIs in Python and Flask that handle 100k+ orders across dozens of food ordering platforms — *Jun – Aug 2021*
- Cut customer service usage by 70% with new tooling as revenue increased by 300% over 2 months

Washington University in St. Louis *Teaching Assistant for CSE 247 (Data Structures and Algorithms)* — *St. Louis, MO*

- Taught students asymptotic analysis as a method to evaluate scalability and effectiveness of solutions to algorithmic problems — *Jan – May 2021*
- Led interactive group studios, weekly office hours, and graded written lab writeups for this class with 300+ students

Coherent *Research & Development Intern* — *Pine Brook, NJ*

- Performed production flow analysis in Minitab to optimize the acquisition of multimillion-dollar machines — *Jun – Aug 2019*

Projects & Leadership

MIT Mystery Hunt 2023 (https://puzzles.mit.edu/2023/interestingthings.museum/)

- Built chat bots and interactive multiplayer puzzles for this premier weekend-long competition. Python, Django, TypeScript, React

Hanab Live (https://hanab.live/)

- Implemented new features, bug fixes, and rectified corrupted database for this multiplayer card game website. TypeScript, Go, Python, SQL

WashU Puzzle Club *President and Founder* — *St. Louis, MO*

- Selected and led diverse activities during weekly meetings that match members' interests in crosswords, logic puzzles, and more — *2021 – 2024*
- Organized and managed weekend-long team puzzlehunt competitions

Awards

Putnam – Top 3% on most prestigious university-level proof-based mathematics competition

ICPC – Led team to qualify for 2021 North American Division Championship

Brian Blank Award – Distinguished junior in mathematics

Math Kangaroo – 1st place nationally for 8 years in a row. Invited as 1 of 10 Americans to Zakopane Math Camp in Poland, all expenses paid

USAJMO – 2019 Qualifier, from top 0.05% nationally (250 students)

USACO – Gold Division, ranking in top 500 of pre-college participants nationally

Bloomberg Summer of Puzzles – 2nd place winner in 2023 and 2020

Skills

Programming Languages – Advanced: TypeScript, Ruby, Python Intermediate: C++, SQL, HTML, CSS Familiar: Racket, Go, Bash

Technologies – Advanced: Git, Linux, React, LaTeX Intermediate: Django, MongoDB Familiar: AWS, Docker, Express, Firebase, PostgreSQL

Languages – English (native), Bulgarian (native), French (fluent), Dutch (beginner), Mandarin Chinese (learning)