

# Danny (Yordan) Grigorov

## Curriculum vitæ

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*Currently focused on personal projects, looking for a graphics position.*

## Summary

C++ in the industry: 2 yrs.  
C++ outside industry: 2 yrs.  
Programming (any lang.): 8 yrs.

## Projects Portfolio

- 2025 - Ongoing **2.5D Raycaster, Mode7 Engine (C++, Win32), On Github**
- Complete 3D illusion with techniques from original Mario Kart & Wolfenstein 3D
  - Added up-down translation and cam rotation (not in the original titles)
  - Direct2D, DirectXMath
- 2025 **Digit Recognition Neural Net From Scratch (C++, Cuda), On Github**
- Eigen (a C++ Matrix lib) implementation - Benchmarking base
  - openBlas & SIMD implementation. Custom AVX2 code for ops not in BLAS
  - cuBlas & CUDA implementation.
- 2025 **Direct2D Game From Scratch (C++, Win32), On Github, , Itch.io**
- Engineless retro-style arcade game in C++ for 76 hours
  - Made and presented at Sofia's annual Hardcore Game Jam
- 2024 **Ray Tracer From Scratch (C++), On Github**
- Awarded for top project at 'Chaos Camp vol. 2024'
  - Later reimplemented in CUDA
- 2024 **Dooria: Dungeon Puzzle (C++, Unreal Engine), On Github**
- Procedurally generated maze, strategic placement of traps, lights & decorations.
- 2024 **Flow Field Pathfinder (C++, Unreal Engine Plugin), On Github**
- Crowd Pathfinding: beats Unreal Engine's default PF for units >25.
- 2020 **MMORPG Computer Vision Bot (Python, Lua, some C++)**
- OpenCV + Python for data scraping & target detection from screen capture.
  - Lua addon for encoding gameplay data on screen for easier scraping
- 2020 **Minimax Chess AI Competition (Python), Supervisor: Dr. S. Fricke**
- AI heuristics optimization for an unsolved chess variant.
  - multi-threaded solution.
  - AI-Tournament-Engine: Docker, HTTP, Match Ranking.
- 2016 **Customized Arch-Based Linux Distro (Bash)**
- Custom Desktop Environment Setup, learned how Linux ticks

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## Industry Experience

- 2025 , (Left Cisco to focus on personal graphics projects)
- 2022 – 2024 **Software Engineer**, *Cisco Systems*, Developing Webex, serving over 200K organizations and 18.5M Daily Active Users
  - C++: Big cross-platform codebase with ~11.6M LOC & 500 git commits/week.
  - Big Data Visualization, Retrieval & Transformation: SQL, SPL, Grafana, Kibana
  - Direct communication with Director of Software Engineering
  - Hackathon Leadership Success: Top 10 finish out of 272 teams, enhancing virtual backgrounds in meetings.
  - Technical Presentations & Communication: Recognized for clear, proactive communication style.
- 2021 **Software Engineer Intern**, *Halo Diagnostics*
  - Java, Typescript, Docker: 2-Month internship at a medical tech startup

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## Education

- 2016–2021 **Business Informatics Bachelor**, *Technical University of Berlin*
  - **Bachelor Thesis**
    - Transpiler Framework Design: 263x speedup on Data Science scripts. (See 'Publications')
    - Scenario Framework on Linux to simulate network conditions on AWS
  - **Main Curriculum**
    - Strong foundation in Statistics, Linear Algebra, Calculus
    - Database & Data Analytics Expertise.
    - Algorithms & Data Structures, Computer Architecture, Algorithm Complexity
    - Multiple projects in Java , Python, R, Haskell

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## Interests

- **My todo list:**
  - Vulkan, DX12, Rust, Minix, Linux Driver Programming, LLVM Custom Compiler
- **Game Jams, Hackathons, Conferences, Workshops**
  - Attends Global Game Jam annually, Breda CG Conference
- **Photography**
  - Composition, exposure & optics useful for Computer Graphics.

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## Publications

- 2023 **Grigorov, Yordan, et al. "P2D: A Transpiler Framework for Optimizing Data Science Pipelines."**
  - Published in DEEM@SIGMOD 202
  - Describes a flexible Intermediate Representation (IR) for n\*m translation between input & output languages, covering diverse data operations.
  - Back up findings with data science scripts scraped from Kaggle.