Matei-Cosmin Drăgușin

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Education

Polytechnic University of Bucharest   Oct 2022 – June 2026
Faculty of Automatic Control and Computer Science, BS in Computer Science   *Bucharest, Romania*

Projects

BitTorrent Protocol Implementation *(C++, MPI, Pthreads)*   ⌾ GitHub
- Implemented a distributed BitTorrent-like protocol using **MPI** and **Pthreads** for efficient peer-to-peer file sharing
- Developed a multi-threaded architecture with separate download and upload threads to maximize transfer speeds
- Created a tracker system to coordinate swarm management and peer discovery across the network

Game Development Projects *(C++, OpenGL)*
- Developed **Drone Delivery Game** ⌾ GitHub (3D) with **C++** and **OpenGL** featuring procedural terrain generation and physics-based gameplay
- Created **Tank Wars** ⌾ GitHub (2D) battle game also using **C++** and **OpenGL** with terrain destruction and physics-based projectiles
- Implemented collision detection systems, camera controls, and particle effects for enhanced gameplay experience

IMDB System Management *(Java, OOP, Design Patterns)*   ⌾ GitHub
- Implemented a complete management system for a platform similar to IMDB using **Java** and **object-oriented principles**
- Applied multiple **design patterns** including **Singleton**, **Factory**, **Strategy**, and **Observer** for robust architecture
- Created flexible data models using **inheritance**, **polymorphism**, and **generics** for managing movies, TV series, and actors

Cloudflight Coding Contest *(Algorithms, Python, C++)*
- Participated in a competitive programming hackathon, solving algorithmic challenges under tight time constraints
- Applied advanced data structures, algorithm optimization techniques, and problem-solving strategies
- Implemented solutions using Python and C++ for different types of challenges

Technical Skills

Languages: **C/C++** (Systems programming, Game development), **Java** (OOP, Design patterns), **SQL** (Database management), **Rust** (Systems programming), **Python** (Machine Learnings)

Technologies & Tools: Git, MPI, Pthreads, TCP/IP Stack, OpenGL, Relational Databases, Network Protocols

Concepts: Data Structures, Object-Oriented Programming, Design Patterns, Algorithms, Database Design, Distributed Systems, Multithreading, Network Architecture, Graphics Programming