

Darius-Bogdan Ignatescu

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EDUCATION

University POLITEHNICA of Bucharest Oct 2022 – Present
Faculty of Automatic Control and Computer Science - Bachelor of Engineering Degree

- Relevant Coursework: **Data Structures, Network Protocols, Object-Oriented Programming, Operating Systems, Functional Programming, Assembly x86**
- Teacher Training Module (Level 1)

WORKSHOPS

3DPUB Summer School, Faculty of Automatic Control and Computer Science June 2024 – Sept 2024

- Successfully completed a summer school program, encompassing four workshops: 3D Cameras, **Computer Vision and Machine Learning Algorithms**, Rapid Game Development and **GPU Architectures**, in collaboration with Electronic Arts Bucharest.

PROJECTS

Q-learning agent for maze escaping | Python, Numpy, Matplotlib

- Developed a precise **reinforcement learning** algorithm to train a robot to navigate diagonally across a map.
- Implemented a responsive **real-time graphical interface** that lets users input one of four starting positions to dynamically visualize the robot's path and decision-making as it encounters rewards and traps.

Image filters and real time pose estimation | C++, OpenCV, GLM

- Implemented advanced planar segmentation algorithms in C++ for **image processing**, incorporating the **Sobel** and **Prewitt** operators and **pose estimation** algorithms such as BRISK, AKAZE and SIFT.
- Achieved **up to 15% optimization in execution time** and feature point detection accuracy through rigorous performance tuning, significantly enhancing dynamic visual analysis capabilities.

EBanking App | Java, OOP, Swing

- This project simulates an EBanking application similar to Revolut, allowing users to buy stocks, add friends and transfer funds across currencies.
- The system features an interactive **Java Swing** interface, leveraging **design patterns** such as **Factory Method, Command, Singleton and Builder** to ensure robust, **scalable** and **maintainable architecture**.

Quadtree image compression | C

- This project deploys a sophisticated image compression algorithm, leveraging a **quadtree data structure** to recursively segment images into uniform pixel blocks.
- The algorithm actively adjusts **compression efficacy** via a tunable "compression factor", **optimizing data reduction** and providing support for diverse compression and decompression formats, tailored for PPM images.

EXTRACURRICULAR ACTIVITIES

Ex touristic guide at "Asociatia Turistica Ghizii Romaniei" August 2021 – July 2023

- As a tour guide, I honed my **teamwork and leadership skills** through **effective coordination and management** of diverse groups, ranging from kids summer camps to adults, ensuring a seamless and engaging experience for all participants.

SKILLS

- Strong competencies for English, **C1 CAE Certificate**
- **Intermediate:** C++, C, Java, Python, Bash, Github, PyCharm, CLion, IntelliJ IDEA
- **Basic:** Octave, Haskell, Assembly x86, Jira, Github Desktop, VS Code, Visual Studio