

Justin-Marian Popescu

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ABOUT ME

As a third-year student at the University Politehnica of Bucharest, I possess a robust skill set encompassing languages such as C/C++, Java, Python, MATLAB, and Verilog along with proficiency in Git/Github, HTML, CSS, JavaScript, and Bash. My understanding of various technical domains is extensive, complemented by fluent English communication skills. Driven by determination and resilience, I consistently strive to elevate my proficiency in programming and systems engineering. I am enthusiastic about collaborating with dynamic teams to nurture both personal and professional development.

EDUCATION

Faculty of Automatic Control And Computer Science

Bucharest, Romania

Bachelor in Computer Science and Engineering

Sep 2021 – Present

Expected graduation year: 2025

Relevant coursework: Object-Oriented Programming, Computer Graphics, Communication Protocols, Operating Systems, Parallel-Distributed Algorithms, and Architecture of Modern Processors

Alexandru Odobescu, National College

Pitesti, Arges

High School Diploma; Mathematics & Informatics Intensive

Sep 2017 – Sep 2021

Completed with a focus on Mathematics & Informatics.

UNIVERSITY PROJECTS

Tiny RISC-V | [GitHub](#)

- Minimalist CPU implementation based on the RISC-V (ISA), specifically focusing on the RV32I extension.
- It executes integer arithmetic and logical instructions within a five-stage pipeline architecture, featuring hazard detection mechanisms and error detection to ensure reliable operation.
- Logical perspective of processor functionality, emphasizing efficient instruction execution and reliable operation.

Router | [GitHub](#)

- Implements static forwarding within a network, employing predetermined routing decisions to ensure the efficient, dependable, and scalable delivery of packets across the network.
- Prefix tree (trie) structure to efficiently navigate the routing table, facilitating accurate forwarding through the Longest Prefix Match algorithm with minimal latency.
- Performance for IPv4, ARP, and ICMP packets, ensuring robust handling under various traffic conditions.

Blockchain | [GitHub](#)

- Implemented adjacency lists for transaction graph management.
- Designed K-Cluster to optimize transaction ordering, ensuring efficiency and reliability.
- BFS and DFS algorithms to navigate complex graphs, maintaining blockchain integrity.
- Integration of BlockDAG architecture into blockchain, improve processing speed and scalability.

BMP Image Library | [GitHub](#)

- Provides essential functionalities for manipulating BMP images, including saving, editing, inserting, and drawing shapes, offering versatility for image processing tasks.
- Straightforward BMP image structure comprising file and info headers, along with a pixel matrix, ensuring simplicity and ease of use in image manipulation operations.
- Basic image editing operations such as saving and editing images, inserting one image into another, setting brush properties, and drawing various shapes with customizable attributes.

Query Language | [GitHub](#)

- Designed a query language enabling complex data manipulations on CSV tables.
- Implemented operations for parsing, displaying, column selection, addition, row filtering, and table merging.
- Supported flexible and extensible transformations on tables for diverse data tasks.

AVL Treemap | [GitHub](#)

- User-friendly API for managing AVL trees with encryption and range-based queries.
- Robust AVL tree operations including insertion, deletion, and lookup in logarithmic time complexity.
- Extended functionality with a Range module for range-based queries on AVL trees, enabling complex data analysis.

PageRank | [GitHub](#)

- Assigns the significance of web pages by analyzing incoming links, enabling the prediction of future user visits.
- Implements both iterative and algebraic algorithms to compute PageRank indices, providing flexibility and efficiency in calculating page importance.
- Generates PageRank vectors for web pages based on input hyperlink matrices, offering insights into page importance and optimizing search engine performance.

WORKSHOPS

Python Programming 101

Oct 2023 - Feb 2024

- Acquired a comprehensive foundation in Python, emphasizing syntax, data structures, Git basics, and developed interactive Flask web applications for practical learning.

Web Programming 101

Oct 2022 - Feb 2023

- Gained fundamentals knowledge in crafting responsive websites using HTML, CSS, and JavaScript, with focus on user experiences and interface design.

CCNAv7 - SRWE

Oct 2022 - Feb 2023

- Mastered networking essentials, including advanced switching, routing techniques, VLAN setup, and foundational concepts of IPv4/IPv6 for efficient network management.

CCNAv7 - ITN

Oct 2022 - Feb 2023

- Explored the core aspects of network device configurations, emphasizing practical connectivity solutions, effective troubleshooting methods, and network security basics.

SKILLS

Languages: C/C++, Java, Python, MATLAB/Octave, Verilog, Bash, SQL, JavaScript, HTML, CSS, Scala, Haskell

Technologies: Git, GitHub, Makefile, CMake, OpenGL, Jupyter, Oracle DB, Docker, Flask

Technical: Data Structures, Algorithms, Multithreading, Memory Management, Unit Testing, Debugging, Scripting, Automation, Version Control, Database Management, Web Development Basics

Personal: Analytical Thinking, Creativity, Perseverance, Adaptability, Attention to Detail, Effective Communication, Proactive Collaboration, Decision Making, Self-Motivation, Time Management