Tal Ben Ami

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Education

Technion - Israel Institution of Technology – B.Sc. in Computer Engineering   2022 - 2027 (Expected)

- Introduction to Computer Science: 88 Points
- Introduction to System Programming: 96 Points
- Computer Organization and Programming: 100 Points
- Data Structures: 89 Points
- Operating Systems: 93 Points
- Reverse Engineering: 94 Points
- Artificial Intelligence: 92 Points
- Digital Systems and Computer Structure: 80 Points
- Theory Of Electronic Circuits: 90 Points
- Fundamentals of Semiconductor Devices: 96 Points
- Algorithms 1: 87 Points
- Computer Architecture: 90 Points
- Computer Networks: 94 Points

ORT Colleges – Bagrut Certificate   2017 - 2020

- **Average:** 98 Points

Magshimim – Cyber Education Center   2017 - 2018

Skills

- **Programming Languages:** C/C++, C#, Python, Assembly, Dart, Java, JavaScript
- **Tools:** Linux, GitHub (w/Actions - CI/CD), Bash, FireBase, Wireshark, Make, CMake, JSON, HTML & CSS
- **APIs, IDEs and Frameworks:** CUDA, OpenCL, OpenMP, Visual Studio, VS Code**,** Android Studio, Flutter
- **Libraries:** PyTorch, Pandas, Numpy, scikit-learn

Projects

Computer Architecture Simulation Suite   github.com/TalBenAmii/Simulation-Suite

- Built a multi-level cache simulator (L1/L2) with LRU eviction, write-back/write-allocate policies, and inclusive hierarchy. Benchmarking based on miss rates and access times, accounting for non-blocking write-back overheads.
- Implemented a two-level branch predictor using direct-mapped BTB with configurable tag-indexing, bimodal FSM states, and L-share/G-share history XOR schemes. Optimizing speculative execution accuracy via trace-driven validation and flush-rate analysis.
- Developed a RAW dependency analyzer for OoO pipelines, constructing instruction-level dependency graphs to identify critical paths and compute program depth using latency-aware topological sorting. Resolving false data dependencies with register renaming.

Egged Bakara - Data Management Assistant Application   github.com/TalBenAmii/eggedBakaraFlutter

- Developed using Flutter and Dart for Android, iOS, and web.
- Implemented personal user accounts and data tracking.

Hachtava - application for educational websites   github.com/TalBenAmii/HachtavaAndroid

- Developed an Android application using Java.
- Integrated with educational websites for Hebrew and English learning with data tracking and management.

Experience

Network Administrator (IDF), C4I and Cyber Defense Corps   July 2020 - October 2022

- Developed automation tools for reports using Visual Basic.
- Provided technical support, IT troubleshooting, diagnosed and repaired network issues.
- Held a security clearance and managed dialer operations for emergency call-ups.

Website Maintenance, Melumad - Bagrut Preparation Courses   August 2019 - January 2020

- Updated and fixed web page content using Front-end development tools.
- Maintained close communication with the CEO for requirements gathering and feedback.