Georgia Dimaki

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Summary: *A versatile software engineer who combines hands-on experience in systems programming and pipeline architecture with the rigorous, analytical thinking from an MIT Operations Research background. This unique blend of practical engineering and theoretical modeling is applied to building robust, performant, and intelligent software systems.*

EDUCATION

Massachusetts Institute of Technology Aug. 2018 – Sept. 2020
Master of Science in Operations Research Cambridge, MA

- **GPA**: 4.6/5.0

Athens University of Economic and Business Oct. 2013 – Apr. 2018
Bachelor of Science in Computer Science Athens, Greece

- **GPA**: 9.69/10.0 | **Honors**: Ranked 1st in Graduating Class, Multiple Awards for Academic Excellence.

PROFESSIONAL EXPERIENCE

InterSystems Nov. 2020 – Present
Senior Systems Engineer Cambridge, MA

- Architected and implemented a high-performance, cross-platform **C++ dynamic library** to unify multi-language API support for the company's core data platform, **reducing the development cycle for new language APIs from 6 months to 1 month.**
- Developed a performant **Node.js API** for client-server communication, leveraging the **N-API** to create efficient bindings to the underlying C++ library.
- Mentored new team members on system architecture and best practices, improving team onboarding and overall productivity.

Laboratory for Information and Decision Systems (LIDS), MIT Aug. 2018 – Jun. 2020
Graduate Researcher; Advisor: Prof. Eytan Modiano Cambridge,MA

- Engineered a Python-based simulation environment to model and optimize network node clustering in large-scale data centers (up to 4096 ToR switches).
- Implemented and benchmarked iterative algorithms using **stochastic optimization** and **spectral clustering** to achieve rapid network reconfiguration in tens of milliseconds.

PROJECTS

Notebook Slide Preview VS Code Extension | *TypeScript, VS Code API, JavaScript*

- Developed a VS Code extension to instantly preview and present Jupyter/IPython notebooks as interactive slides directly within the editor.

Distributed Control Platform for Autonomous Vehicles | *JavaScript, Kafka, Raspbian OS*

- Engineered a real-time, distributed platform to manage network protocols on Unmanned Surface Vehicles (USVs) using JavaScript and a Kafka messaging queue.
- Developed shell scripts to automate the deployment and configuration process across dozens of devices, ensuring consistent updates for the entire fleet.

Computer Vision Pipeline for Gene Expression Prediction | *Python, PyTorch, Weights & Biases*

- Engineered an end-to-end computer vision pipeline to predict gene expression levels directly from high-resolution H&E stained histology images.
- Implemented custom data loaders for efficient processing of large image tiles and modified deep neural network (DNN) architectures to improve predictive accuracy.

Robust Optimization for Ventilator Allocation | *Python, Gurobi, pandas*

- Developed a robust optimization model that improved ventilator availability by over **30%** compared to existing mixed-integer programming solutions during resource shortages.

Hotel Cancellation Prediction Model | *R, XGBoost, caret*

- Engineered a predictive model using XGBoost that achieved **86% accuracy** in forecasting hotel cancellations, maintaining a false positive rate below 7%.

SKILLS

Languages: Python, C++, Node.js, JavaScript, Java, R, SQL, Julia, HTML/CSS
Frameworks/Libraries: React, Express.js, PyTorch, Tensorflow, scikit-learn, pandas, NumPy
Databases & Platforms: InterSystems IRIS, MongoDB, Kafka
Optimization Tools: Gurobi, Julia/juMP, GPyOpt, AMPL
Developer Tools: Git, Github, Docker, Jira, Trello, Weights & Biases

LANGUAGES & INTERESTS

Languages: Greek (Native), English (Fluent), Russian (Beginner)
Interests: Rowing, dancing, singing, songwriting, clothes design