

## Alexander Mellas

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### EDUCATION

#### University of Illinois

*Master of Engineering in Electrical & Computer Engineering*

- GPA: 3.7 / 4.0

**Urbana-Champaign, IL USA**

*exp. Fall 2024*

#### Washington University

*Bachelor of Science in Electrical Engineering, Minor in Computer Science*

- GPA: 3.8 / 4.0

**St. Louis, MO USA**

*May 2021*

### PROJECTS

#### **RISC-V CPU with AXI Master Interface** (*Xilinx Vivado, SystemVerilog, C, Linux*)

- Implemented soft-core CPU following the RISC-V instruction set architecture in SystemVerilog
- Equip CPU with AXI Master interface to enable communication with peripheral devices (e.g., UART, GPIO)
- Used a Linux environment to install a RISC-V toolchain for C code conversion to bare-metal instructions
- Incorporated both custom and Xilinx-provided IP for system on chip designs
- Performed assertion-based system verification by writing testbenches to for modules and systems

#### **Autonomous Vehicle Obstacle Avoidance** (*Python, PyTorch, TensorFlow*)

- Programmed FITENTH Autonomous Vehicle for lane detection and control
- Detected objects using a LiDAR sensor, and implemented local path planning to avoid the obstacle using a variety of techniques (e.g., hybrid A\* search, Probabilistic Roadmaps, Rapidly exploring Random Trees)

### TECHNICAL SKILLS & COURSEWORK

**Courses:** Computer Org. & Design, Digital System Design, Digital Signal Processing, Robotics, Machine Learning

**Programming:** HDL (Verilog & SystemVerilog), Software (Python, C, C++, Java, MATLAB/Simulink)

**Hardware & Other:** FPGA, Xilinx Vivado & Vitis, Linux

### TEST SCORES & LANGUAGES

- **GMAT:** 730/800 (96th percentile)
- **GRE:** Verbal: 162, Quantitative: 167
- **Spoken Languages:** English (Native), Greek (Proficient)

### PROFESSIONAL EXPERIENCE

#### ClearView Healthcare Partners

**Boston, MA USA**

*Strategy Consultant*

*September 2021 – April 2023*

- Develop strategic insights for a range of life science clients, including pharma, biotech, and capital investment firms
- Responsible for all aspects of project work including due diligence, primary market research, development of PowerPoint narratives, financial forecasting, interfacing with internal management and presenting to client teams

### LEADERSHIP

#### Washington University Club Soccer President

**St. Louis, MO USA**

*President & Captain*

*August 2019 – May 2021*

- Led the team to two regional tournament finals, performing duties as both player/coach and club manager

#### Dormition of the Virgin Mary Greek Orthodox Church

**Sommerville, MA USA**

*Parish Council Member*

*December 2022 – August 2023*

- Acted on board of directors to manage Parish operations, and oversees various Parish Ministries