Angelo Damiani

Computer and System Engineer

"I do not fear computers. I fear lack of them."
- Isaac Asimov

Profile

Name: Angelo Damiani
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Education

2019-Now **Doctor of Philosophy: Computer Science**, Gran Sasso Science Institute.

2016-2019 **Master of Engineering: Computer and Systems Engineering**, *110/110 cum laude and Academic Mention*, University of L'Aquila.
Thesis: *Modeling and Adaptive Model Predictive Control of a Hydraulic McKibben Muscle*
Advisors:
- *Prof. Costanzo Manes (University of L'Aquila, L'Aquila)*
- *Prof. Kazuhisa Ito (Shibaura Institute of Technology, Tokyo)*

2012-2016 **Bachelor of Engineering: Information Engineering**, *110/110 cum laude*, University of L'Aquila.
Thesis: *Implementation of a RSTP plug-in for the OpenFlow-based controller Ryu*
Advisor: *Prof. Daniele Frigioni (University of L'Aquila, L'Aquila)*

Experience Abroad

2018-2019 **Research Exchange Program**, *Shibaura Institute of Technology*, Tokyo, Japan.
While there I worked on my Master's Degree thesis which was about modeling and control a hydraulic McKibben artificial muscle. A black-box System Identification has been used to define a parametric model. Parameters, then, are iteratively refined using the Recursive Least Squares algorithm during the functioning. In the end this adaptive model has been used by an MPC to control the displacement of the artificial muscle.

2018 **Pre-doctoral Research School**, *Max Planck Insitute for Software Systems*, Saarbrücken, Germany.
Organized by Cornell University, University of Maryland and Max-Planck Institute for Software Systems (fully named as "The Cornell, Maryland, Max Planck Pre-doctoral Research School 2018), it was a one week pre-doctoral summer school. Participants were exposed to the state of the art and cutting-edge research topics by internationally leading computer scientists from the organizing institutions.

2017 **Assistive Technology Development Workshop**, *Shibaura Institute of Technology*, Omiya, Japan.
Two weeks workshop (fully named as "Support Equipment Development International Joint Training Program") aimed to study and design auxiliary devices and innovative machines which can help agricultural operators in cultivation activities improving their work conditions and operational efficiency.

Certifications and Personal Projects

2021 Development of a FitBit application for Japanese Language learning: `Japanese Quiz`

2018 Cisco CCNA 2 Routing and Switching: Routing and Switching Essentials

2016 Cisco CCNA 1 Routing and Switching: Introduction to Networks

Skills

Programming Languages:

- Python (Intermediate/Advanced)
- Javascript (Intermediate)
- C/C++ (Intermediate)
- PHP (Intermediate)
- R (Beginner/Intermediate)
- Go (Beginner)
- Java (Beginner)

Frameworks:

- Keras (Machine Learning)
- Ryu (Software Defined Networking)
- JQuery (Web development)
- Bootstrap (Web development)
- Pandas, Numpy, Matplotlib, SciPy (Data Analysis)
- Gym (Reinforcement Learning)

Softwares:

- Jupyter Notebook (Intermediate)
- Octave/MATLAB and Simulink (Intermediate)
- Networks Emulators (Mininet, Cisco Packet Tracer) (Intermediate)
- Database and RDBMS (PostgreSQL/PostGIS, MySQL) (Intermediate)
- Git (Intermediate)
- LaTeX (Intermediate)

Other Skills

- Good learning will
- Network troubleshooting skills
- Can write well organized structured documents and presentations

Publications & Appearances

June 2022 Manganini, G., Damiani, A., Metelli, A.M., Restelli, M. "A Novel Inverse Reinforcement Learning Formulation for Sample-Aware Forward Learning", The 5th Multi-disciplinary Conference on Reinforcement Learning and Decision Making (RLDM): June 8-12, Providence, Rhode Island, USA, 2022

July 2022 Damiani, A., Manganini, G., Metelli, A.M., Restelli, M. "Balancing Sample Efficiency and Suboptimality in Inverse Reinforcement Learning", The 39th International Conference on Machine Learning (ICML): July 17-23, Baltimore, Maryland, USA, 2022

Languages

Italian: First Language

English: Fluent, B2 level certified by *University of L'Aquila*