

ANTONIO RAPUANO

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SUMMARY

Engineer with deep expertise in control systems, robotics, electronics, and software. Passionate about driving innovation through research and development, seeking a role where I can apply advanced technical skills to design, prototype, and optimize next-generation technologies.

EXPERIENCE

(Details and media at ntonioa.github.io/projects)

Autopilot Control Systems Engineer

Fall 2024 - present

Sapienza Flight Team

Highlights: Control architecture design • Implementation on custom hardware • Testing and validation

EDUCATION

(Details and media at ntonioa.github.io/projects)

M. Eng. equivalent, Control Engineering

Fall 2022 - present

Università degli Studi di Roma "La Sapienza", Rome, Italy

Expected final grade: 110/110 with honors

Thesis: Modeling, approximation, and nonlinear predictive control of suspended deformable cable continuum dynamics for aerial pick and place (Advisor: Prof. Antonio Franchi)

Relevant coursework: Analysis, modeling and control of nonlinear systems, hybrid systems, multi-agent systems • Estimation • Optimal control • Robust control • Basic and advanced robotics

B. Eng. equivalent, Electronic Engineering for Automation and Telecommunications

Fall 2018 - Winter 2022

Università degli Studi del Sannio, Benevento, Italy

Final grade: 110/110 with honors

Thesis: Implementation on FPGA of a circuit controlling a mechanical arm (Advisor: Prof. Marco Pisco)

Relevant coursework: Analysis, modeling and control of linear systems • Analog and digital electronics • Digital design • Signal processing • Telecommunications

ACADEMIC PROJECTS

(Details and media at ntonioa.github.io/projects)

• Control of underactuated robots via input-constrained receding-horizon differential dynamic programming Winter 2023 - Fall 2024

• Fault-tolerant formation control of passive multi-agent systems using energy tanks Summer 2024

• Decentralized PEV charging control based on a subgradient method for mixed-integer programming problems Winter 2023 - Spring 2024

• Modeling and controlling the Mars helicopter 'Ingenuity' Fall 2023 - Spring 2024

• Two-wheeled self-balancing robot Fall - Winter 2023

• Control of a video-game race car using a convolutional neural network Winter 2023

• Signal acquisition through an A/D converter Spring 2021

SKILLS

Software and tools: Blender • Fusion 360 • LTSpice • Microsoft Office • Simulink • Stateflow

Programming and modeling: Arduino • C/C++ • CSS • Java • HTML • LaTeX • MATLAB • Python • Verilog HDL

Hardware: Circuit board soldering

Personal skills: Attention to detail • Autonomy and initiative • Critical thinking • Curiosity and continuous learning • Problem-solving attitude • Project planning • Technical writing • Time management

LANGUAGES

Italian, native

English, proficient

Cambridge English C1 Advanced - Score 207 (Grade A, CEFR Level C2)

Summer 2022