Loris Emanuelli

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Mechanical engineering MEng candidate focused on product design, sports engineering, prototyping, testing, DFM, and mechatronic product development.

Education

University of California, Berkeley - GPA: 3.85/4.00 — **Berkeley, CA, USA**

Master of Engineering in Mechanical Engineering — *May 2026*

Recent coursework: MECENG 235 (embedded/mechatronic systems), MECENG 249 (scientific machine learning), MECENG 292C (morphing materials and mechanisms), IEOR 242A (analytics/ML), Capstone 121/122 (operations analytics).
Studios focused on systems design, mechatronic integration, prototyping, and validation workflows.

Arts et Métiers Institute of Technology - GPA: 3.78/4.0 — **France**

Combined B.S./M.S. Mechanical & Industrial Engineering — *2019 – 2024*

Relevant coursework: solid mechanics, materials science, manufacturing processes, product and system design, CAD, FEA, experimental design, instrumentation.

Work Experience

Graduate Student Instructor (GSI) – Physics 8A, UC Berkeley – Berkeley, CA, USA — *Spring 2026*

- Lead undergraduate physics discussion/lab support for mechanics and quantitative problem solving, translating abstract concepts into clear analytical steps.
- Grade technical work and provide structured feedback on modeling assumptions, equations, units, and communication of reasoning.

Tutor, Alveus – Berkeley, CA, USA — *January 2025 – August 2025*

- Tutored math, physics, and engineering fundamentals, adapting explanations to student needs and reinforcing rigorous problem-solving habits.

Operation Team Member (Intern), La Poste Groupe – Paris, France — *July 2024 – August 2024*

- Supported service-development tasks, database workflows, and accounting follow-up in a structured operational environment.

Room Service Clerk, Park Hyatt Paris Vendôme – Paris, France — *July 2023 – February 2025*

- Coordinated room-service delivery with kitchen and service teams to maintain premium hospitality standards under time constraints.

Projects

FormaFlow Dress | *UC Berkeley* — *2025*

- Designed a morphing wearable with dual actuation paths (2 mechanisms: side flippers + waist tiles) to lift hems while preserving drape.
- Integrated IMU-based gait triggers and manual override (2 control modes) with servo actuation and compact electronics harness.
- Prototyped PLA/TPU components, cable routing, and fabric interfaces; iterated for reliability, comfort, and repeatable motion.
- Tools: SolidWorks, CATIA V5, 3D printing, IMU sensing, servo control, Python/MATLAB.

PJT Pied – Instrumented Foot Model | *Arts et Métiers* — *2024*

- Built an instrumented biomechanical foot model with strain-gauge sensing across forefoot/midfoot/heel regions (3 segments).
- Modeled geometry and internal routing in NX; designed lamella structures to house gauges and wiring.
- Validated load cases with Fusion FEA and iterated calibration for repeatable strain measurements.
- Tools: NX, CATIA V5, strain gauges, data acquisition.

Robogotchi Embedded Robot Pet | *UC Berkeley* — *2026*

- Built ESP32 firmware architecture for a mobile robot pet with real-time behavior states, motor control, and telemetry.
- Integrated modular hooks for touch, IMU, RFID feeding, camera tracking, buzzer feedback, OLED face display, and Wi-Fi dashboard.
- Structured non-blocking state logic so follow, feed, touch, shake, sleep, hunger, and fail states stayed responsive.
- Tools: ESP-IDF, Arduino components, C/C++, WebSocket dashboard, embedded debugging.

Stride Recover Hamstring Wearable | *UC Berkeley* — *2026*

- Designed a smart hamstring recovery wrap concept from interviews, field observations, AI-assisted synthesis, and prototype testing.
- Built sEMG-inspired sensing and dashboard mockups around normal, attention, and danger states for return-to-play confidence.
- Mapped adaptive feedback loops linking user profile, live activation data, recovery modeling, and suggested exercises.
- Tools: user research, Human-AI ideation, wearable prototyping, sensing electronics, interface design.

Leadership & Activities

Handball

- Coach (ages 6–12), two departmental championships; former U18 national champion.

Student Leadership & Competitions

- Founder of ENSAM student associations (5,000+ participants); finance club contributor; national Scrabble competitor (France rank #4).

Skills

CAD: NX, SolidWorks, CATIA V5. **Prototyping**: 3D printing (PLA/TPU), mechatronic integration.
Sensing: strain gauges, IMU-triggered actuation. **Simulation**: FEA, boundary condition validation.
Materials: polymer characterization, spectroscopy. **Programming**: Python, MATLAB.
Languages: French (native), English (TOEFL iBT 91), German & Italian (conversational).