Daniel Biasiotto

Computer Science & Artificial Intelligence Student

Turin, Italy | daniel.biasiotto@edu.unito.it | +39 339 855 0239 | denial.in.net | github.com/denialbb | LinkedIn

ACADEMIC PROFILE

Master's student in Artificial Intelligence (**110/110 cum Laude in Computer Science BSc**). Master's thesis on learned intra prediction for VVC/H.266 at EidosLab (University of Turin): neural prediction under rate-distortion constraints, evaluated inside the VTM reference encoder. Research interests in neural compression, rate-distortion learning, and efficient inference. Systems background spanning machine learning, computer vision, and software engineering, with international study experience (Luxembourg, United Kingdom) and professional proficiency in English (**C1**). Active contributor to open-source software for research and scientific automation.

EDUCATION

Master's Degree in Artificial Intelligence
University of Turin *Sep 2022 – Apr 2027 (Expected)*

- GPA: **27.5 / 30** | **EDISU Merit Scholarship** | Focus: Machine Learning, Computer Vision, Multi-Agent Systems, Advanced Statistical Methods.
- **International Mobility:** Erasmus+ Program at the **University of Luxembourg** (Master in Computer Science – AI, 2023/24); academic courses in Paignton (UK).
- **Thesis (in progress):** *"Learned Intra Prediction in VVC/H.266"* — neural prediction under rate-distortion optimization, integrated into the VTM reference encoder with in-process C++ inference.
- Supervisor: **Prof. Marco Grangetto** (EidosLab) | Co-supervisor: **Dr. Gabriele Spadaro**

Bachelor's Degree in Computer Science
University of Turin *Sep 2019 – Oct 2022*

- Final Grade: **110 / 110 cum Laude** | **EDISU Merit Scholarship**
- Thesis: *"Simulation of Quantum Algorithms using the Q# tool"*
- Supervisor: **Prof. Stefano Berardi** | Co-Supervisor: **Prof. Luca Luigi Paolini**

RESEARCH & OPEN SOURCE PROJECTS

Limen – *Deterministic Multi-Agent Workflow Engine* (github.com/denialbb/limen)

- Designed and developed a deterministic multi-agent orchestration engine in **Go**, formalized as a transactional state machine over SQLite (WAL).
- Implemented concurrent LLM worker isolation via `git worktree`, formal code validation protocols, and an interactive TUI.

AEGIS – *Autonomous Estimation & Guidance Integrated System* (github.com/denialbb/AEGIS)

- Implemented non-linear state filters (12-state Error-State EKF) and Mahony attitude filters for 6-DOF dynamics.
- Pseudo-inverse based control allocation algorithms and Bayesian hyperparameter optimization using **Optuna**.

Open Source Contributions & Academic Tools:

- **huacnlee/omamail** (330+ stars): Fixed the XML CDATA parser for CalDAV protocol responses.
- **koreader** (31k+ stars): Fixed an out-of-memory crash in optimized-page rendering — PR [16346](https://github.com/koreader/koreader/pull/16346) (open), verified on-device (Kobo Libra 2).
- **markdownreader.koplugin**: Engine for typographic rendering of scientific documents and LaTeX formulas via MicroTeX (Lua/C++).

PROFESSIONAL EXPERIENCE & VOLUNTEERING

Librarian (Universal Civil Service)
Garessio Civic Library *Sep 2025 – Present*

- Managed documentary heritage; developed analytical scripts and data-cleansing tools for the catalog database (**Biblios**).

International and Erasmus Student Welcome Assistant
University of Turin *Feb 2023 – Aug 2023*

- Provided linguistic, academic, and administrative support (residency and enrollment procedures) for international and Erasmus students.

First Aid Volunteer & Educator
Italian Red Cross – Mondovì Committee *Mar 2018 – Dec 2020*

- Achieved First Aid certification (theoretical-practical exam); participated in medical assistance operations and community awareness campaigns.

Software Developer (Unity / C#)
GF Creative Lab *Sep 2021 – Apr 2022*

- Engineered software architecture and integrated testing and continuous integration pipelines (GitHub Actions).

TECHNICAL SKILLS

Programming:	Go, Python, C++, Rust, C#, Q#, Haskell, Java, Lua, Emacs Lisp (Elisp), SQL
Research Areas & Methods:	Machine Learning, Neural Video Coding (VVC/H.266, VTM), Rate-Distortion Optimization, State Estimation (Kalman/EKF), Multi-Agent Systems, Quantum Computing (Simulation)
Systems & Tools:	Linux, Git, SQLite WAL, MariaDB, Docker/Kubernetes, Typst, LaTeX
Languages:	Italian (Native), English (**C1 Advanced** – CEFR, international mobility and study), French (Reading)
Standardized Tests:	TOEFL — score pending