

# Pietro Comin

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## SUMMARY

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Computer Science student (UFPR) with a focus on Artificial Intelligence and product vision. Undergraduate Researcher in Deep Learning, applying Convolutional Neural Networks (CNNs) to analyze activation functions. Seeking an internship opportunity to develop cutting-edge AI solutions and contribute to the full product lifecycle, from technical conception to user value delivery.

## WORK EXPERIENCE

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### Finance & Administration Board Member

Apr 2024 - Dec 2024

- **ECOMP - Junior Enterprise in Computing**, Curitiba, Brazil
- Led a research initiative on financial investment strategies, presenting a feasibility study to the board aimed at optimizing the organization's capital allocation.
- Analyzed project contracts and cash flow data to support the directorate's strategic financial planning.

## RESEARCH EXPERIENCE

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### Undergraduate Researcher - Deep Learning

Aug 2024 - Present

- **Federal University of Paraná (UFPR)**, Curitiba, Brazil
- Investigating the impact of the ReLU activation function's non-differentiability point on neural network training dynamics and performance.
- Developing and training Convolutional Neural Networks (CNNs) on the MNIST and FashionMNIST datasets to analyze gradient flow during backpropagation, utilizing Python.

## PROJECTS

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### Shooter Born in Heaven (2D Game Engine)

C & Allegro 5

Engineered a complete Run 'n Gun game (50 hrs), featuring a parallax scrolling renderer, state-machine animations, and an advanced, multi-phase boss AI.

### MIPS-based Vector Processor

Computer Architecture

Designed and implemented from scratch a simplified MIPS vector processor, contributing to gain of experience in the hardware-software interface and low-level computer organization.

## HONORS & AWARDS

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**Award of Merit** National High School Model United Nations (NHSMUN)

New York, 2022

**Calculus II Honors** Indepth calculus II lessons

2024

## EDUCATION

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2024 - 2027 (Expected)    **Federal University of Paraná (UFPR)**  
*Bachelor of Science in Computer Science*

*Curitiba, Brazil*

## SKILLS

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<b>Languages</b>	Python, C, Java, LaTeX
<b>AI/ML</b>	PyTorch, Scikit-learn, Pandas, NumPy, CNNs, Deep Learning Theory
<b>Developer Tools</b>	Git, GitHub, Linux, Makefiles, GDB, logisim-evolution
<b>Languages (Spoken)</b>	Portuguese (Native), English (Fluent, C1), Spanish (Basic)