DANIEL ALCIDES SAROMO MORI

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Subject: Application to the ETH Robotics Summer School (RSS)

Dear selection committee members of the ETH Robotics Summer School,

I am very passionate about robotics. When I was a kid, I loved to disassemble RC cars and observe their internal structure. Nevertheless, the inspiring point that catalyzed my journey into robotics was an internship in a research lab where I had to work with real-life spiders, which led me to create my own spider robot as an extra-curricular activity. Building it required the iteration of the mechanical and electronic implementation to achieve a proper functional physical structure. Also, this project sparked my curiosity for the world of AI.

I aim to build a career as an engineer focused on research and academia. This is my vocation and the ETH RSS is a vehicle to help me reach my goals and serve my community better. I come from a disadvantaged background (Rural/Indigenous Peruvian), and I have learned a lot after moving to the capital of Peru for my BSc, and abroad for my master studies. During my classes, I share with my students the experiences and knowledge I got from my professional trajectory outside my hometown. After finishing my MSc, I plan to get a PhD focused in robot learning and then become a university professor and researcher. I am convinced that this summer school is the ideal bridge connecting these chapters of my scientific and professional journey. Also, this program might open the doors for doing my PhD in one of ETH's research labs.

→ Some relevant hard skills useful for the summer school:

- I have 6 years of teaching experience in courses related to AI and Data Science.
- I have published four DL-focused research **papers with more than 100 citations** in total.
- I have invented a new type of Neural Network to avoid the Vanishing Gradient Problem (VGP). I presented this DL algorithm at conferences in 6 countries.
- I have built (on my own initiative) the following robots: A 2 DOF pointer robot (with robot learning via DDQN and NEAT), a BB8-shaped robot, a rolling robot with a magnetically stabilized domed head, an 8 DOF spider robot with an AI-powered algorithm I developed for my BSc thesis (its the design was awarded in the US at IMECE 2019).

Thanks for your time and attention. Kind regards,
Daniel Saromo