

# Oliver Sanchez

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## EDUCATION

- Qualified for IMO&IPhO&IChO at age 17 |GRE: V160 Q166, AWA5 |ACT math: 35 |TOEFL: 118
- Norwegian University of Science and Technology  
*Cybernetics and Robotics Master* Trondheim, Norway  
Aug 2025 - present
- University of Copenhagen  
*Master's Exchange, Machine Learning* Copenhagen, Denmark  
Aug 2024 - Jan 2025  
*All M.Sc Courses: Advanced Topics in Deep Learning, AT in NLP, Probabilistic ML*
- Norwegian University of Science and Technology  
*Mechanical Engineer Bachelor, Thesis Grade: A* Trondheim, Norway  
Aug 2022 - May 2025  
*Notable M.Sc Courses: ML, Robotics, DL, Robotic Vision, Computer Vision and Deep Learning, NLP, Optimization and Control, Autonomous Systems Planning*
- IB Diploma: Menntaskólinn við Hamrahlíð Reykjavík, Iceland  
*Math and Physics, graduated a year early* Aug 2019 - May 2021

## TECHNICAL EXPERIENCE

- Humanoid Labs NTNU Trondheim, Norway  
*Co-founder; Lead Engineer (full-time)*
  - Two months in:: I have found two co-founders to start this dream of mine with, the first ever student organization which focuses on building a humanoid, from scratch. The humanoid will run SOTA end2end RL, imitation learning models and foundation models. The first month we completed the build of our first small humanoid based on open-source design. Since then we have started the design of our own small humanoid and are onboarding 4 new members. We were invited to San Francisco in October and had meetings with 1X and OpenAI to discuss the future of humanoids. We have secured multiple partnerships and will be mentored by industry experts and researchers.
- Gervigreindarkeppni Íslands Reykjavík, Iceland  
*Co-founder (part-time)*

Along with three co-founders, we have created a non-profit in Iceland which will host the annual Icelandic AI National Championships, the first one being January 2026. We have partnered with the government, the bank of Iceland, the University of Iceland, Miðeind and Almannarómur. And gotten sponsorships totaling 20,000 USD. I have contributed to getting sponsors, creating the website and setting up a VM based secure submission system. I am also responsible for creating problems for the competition.
- OmniMod AS Fornebu, Norway  
*AI Developer; Computer Vision Research Engineer (full-time)*
  - Responsibilities: My duties mainly pertain to develop improved computer vision models for our system and deploy them. I spend a lot of time reading new research in the field. The pipeline receives camera feeds from multiple overhead cameras, giving different views of the packages on the 'omnimodule', and has to segment area-of-contact only. Accuracy and speed is essential to meet our system uptime requirements. I worked on improving the current temporal U-Net-based model, reducing package split/merge errors by ~10%. I created and deployed an optimized model that reduces critical path runtime by 17%. I also developed a new system architecture that ran my optimized models on edge-devices to massively cut deployment costs and reduce runtime.
- Revolve NTNU formula student (17th in world rankings) NTNU, Norway  
*Autonomous Systems; Perception Engineer (Full-time)*
  - Responsibilities: Was responsible for remaking the previous LiDAR-only perception pipeline to include a monocular camera for ML cone-recognition and sensor fusion. Laid the groundwork for the new pipeline, while also improving the detection pipeline to be one of the most reliable autonomous systems for competition. Through extensive experimentation and research I improved the runtime and performance of the pipeline by altering the clustering and downsampling operations and orders. Successfully addressed the largest issue from previous testing, which was recall. This involved working on the precision-recall trade-off and in particular analyzing precision-recall performance for different sections of the track. Placed top 3 in multiple autonomous events at both Formula Student Germany (FSG) and FS East (5th place overall in driverless class). We won FS Netherlands 2024.

## RESEARCH EXPERIENCE

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<b>Assisting in research at Belongie Lab at the Pioneer Centre for AI</b>	Copenhagen, Denmark
Working on a new iteration of a CVPR24 paper, being advised and collaborating with the original author. The work is on few-shot learning in point cloud segmentation, and the goal is to reduce the computational load of the original model. I have run experiments with newer backbones and experimented with architectural changes. I have worked independently, too a large extent, with weekly meetings with my advisor, who is a PhD under Serge Belongie, and I also attend weekly meeting with the entire Belongie Lab. The original paper is called Correlation Optimization Segmentation model. I had some promising results but chose to reduce my time in resaerch due to prioritization of other projects and startups.	Sept 2024 - May 2025
<b>Summer Researcher, at Electrical &amp; Computer Eng. Faculty, University of Iceland</b>	Reykjavík, Iceland
Researching architectures and transfer learning methods for femur segmentation of CT scans. My direct advisor, Prof. Lotta Maria Ellingsen, is head of the faculty and I learned a lot as a researcher working under such an experienced researcher. Was tasked to improve a previous model on unseen data from external/international sources. Developed a model that trained nearly 20x faster and with few-shot learning improved dice coefficients by 20% (compared to previous model) with only 4 labeled segmentations. github	June - August 2024

## PERSONAL PROJECTS

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- **Investigating Mamba Architectures for Coronary Artery Segmentation:** Final project in master's course 'Computer Vision and Deep Learning', received an A. Full report is on the following github repo: CV & DL paper, May 2024
- **Researching ML Techniques for Cone Detection from LiDAR Data for an Autonomous Race Car:** Final project in master's course 'Robotic Vision', received a B. Full report is on the following github repo: ML detection paper, April 2024
- **Adapting DINO for Medical Tasks using LoRA:** Final mini-research project in master's course 'Advanced Topics in Deep Learning', received an A. Full report is on the following github repo: ATDL mini-research paper, Oct 2024
- **Diffusion Models and Constrained Gaussian Processes:** Final project in master's course 'Probabilist Machine Learning', received an A. Full report is on the following github repo: PML main project, Jan 2025
- **High-level AI planning for simulating an autonomous oil rig inspection:** Using a turtlebot I leveraged high-level simultaneous temporal planning to simulate an oil rig mission with a real turtlebot3, see demonstration here: demo video
- **Creating a robust controller for a physical helicopter with 3 DOF.:** I did an analysis where I designed LQ and MPC controllers for a physical helicopter and tested their robustness in the lab. demo video, full report

## HONORS AND AWARDS

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- **1st place at worlds biggest Humanoid Manipulation hackathon in Munich 2025:** Me and two teammates won the BMW challenge by creating specialized policies for subtasks. Inspired by RewACT we trained the specialized policies to automatically detected task completion, allowing for seamless transition. There was nearly 100 people, a large portion of which were researchers and PhD students. Won hardware worth 3,000 USD. Demo.
- **3rd place in National Danish AI championship 2024:** Me and my two teammates (all bachelor students) placed 3rd out of all Bachelor's and Master's students in Denmark. One week to develop and deploy solutions for three AI problems.
- **1st Place Overall Formula Student (FS) Netherlands 2024:** My FS team won the FS competition in Netherlands.
- **IPho 2021 participant:** Placed top 3 out of Icelandic participants and was the highest ranked for my age. Chose IPhO over IMO as at the time I was more interested in physics. Was not allowed to compete in more than one international olympiad.
- **IMO 2021 qualification:** Highest ranked for my age, did not participate as I chose IPhO.
- **IChO 2021 qualification:** Won both preliminaries and national finals. Highest ranked for my age and the age above.
- **EuPhO 2021 participant:** Qualified and participated in European physics olympiad.
- **National Math Champion:** Won national math competition for 10th graders in 2019 and was highest ranked for my own age in both 2020 and 2021. Placed top 11 in U20s Icelandic national high school finals at the age of 16. Ranked 5th among Icelandic Participant in U20s Nordic Math Competition at age 16.

## ACCOMPLISHMENTS

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- **2025 Meta Hackathon Grand Finalist:** We created The Local Llama, a new search engine that allows people to search like a local without speaking the native language. Presented our product in front of some of norway's biggest AI companies, VCs and policymakers, in addition to the Meta team. I built the backend and developed our business plan. See a video of our presentation on Cerebral Valley youtube/twitter (Presentation, 6th video on page) See project here)
- **2024 MIT hackathon semi-finalist:** We created a investment terminal called Polaris based off scraping 100s of news sources, as well as social media platforms. Performing sentiment analysis using our own fine-tuned Claude3.5. Also had a gpt-4o chatbot that leveraged RAG and Langchain to be able to discuss events surrounding a particular stock. Code. Pitch.
- **Finished 275 ECTS in first two years of my degree, 60 of which were Master's:** Did not graduate in May 2024 as per university policy I had to wait until spring 2025 to write my bachelor thesis. GPA: 3.74/5
- **Graduating high school a year early:** I was made an exception due to my achievements at a young age.
- **Graduated with honors:** Graduated Junior high school (8-10th grade) with honors in math, physics and english.

- **Graduated Dale Carnegie:** The program gave me great confidence in public speaking and improved my leadership abilities
- **YC AI startup school 2025:** AI Startup School gathered 2,500 of the global top CS students in AI to hear from the world's top AI experts and founders, including Karpathy, Chelsea Finn, Chollet, Andrew Ng. Spent the week connecting with and learning from great, ambitious people.
- **Entrepreneur First's (first ever) Selection Days 2025:** Among top 4% of applications invited to selection days, basically a mini version of their cohort. Quickly found out it was not for me but learned a lot about invalidating ideas and value of customer feedback.
- **Rome Marathon 2024:** Completed the Rome Marathon in 5 hrs
- **Unofficial Icelandic Cheeseburger Champion:** Finished 10 McDonald's cheeseburgers in 11:52 minutes. Competed against Icelandic friends and have not met anybody who has beaten this record. I want to make it official:)

## SCHOLARSHIPS

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- **Physics Olympiad Scholarship:** Received a scholarship of 7,000 USD for the summer of 2021 since I was in the Icelandic physics olympiad training camp.
- **Full-Tuition Scholarship at Reykjavik Junior College (high school):** Was the only person who received a full-tuition scholarship from the most prestigious high school in Iceland. This is because I won the math competition which they hosted for all 10th graders in all of Reykjavik (64% of population). Rejected the scholarship because I was offered to skip the first year of high school at IB.