Silvia Arellano García

16442 Stockholm, Sweden

silviaarellanogarcia@gmail.com
+34 665 35 82 75
linkedin.com/in/silvia-arellano-garcia/
https://github.com/silviaarellanogarcia

Education

- **Kungliga Tekniska Högskolan (KTH)** — Stockholm, Sweden
  MSc in Machine Learning (4.83/5.0) — *August 2023 - June 2025 (Expected)*
  - Relevant subjects: Advanced Deep Learning, Advanced Machine Learning, Computer Graphics, Visualization, AI for Multiagent Systems, Computer Vision

- **Aalto University** — Espoo, Finland
  Bachelor thesis (10.0/10.0) — *January 2023 - June 2023*
  - Conducted at the Aalto Mobile Robotics Lab, under the supervision of Tomasz Kucner and Beatriz Otero. Thesis: A 3D Terrain Generator: Enhancing robotics simulations with GANs.

- **Universitat Politècnica de Catalunya (UPC)** — Barcelona, Spain
  BSc in Electrical Engineering (8.24/10.0 - 7th out of 122 students) — *September 2019 - June 2023*
  - **Specialisation:** Audiovisual signal processing.

- **I.E.S. Ramón J. Sender** — Fraga, Huesca, Spain
  High School Diploma, Technical modality (10.0/10.0) — *September 2017 - June 2019*

Experience

- **Master Thesis Intern - SEED (Electronic Arts)** *Stockholm, Spring semester 2024*
  - Explored 3D asset generation from multi-view images using flow matching models. Built on TRELLIS to develop new latent space conditioning strategies, improving geometry and texture consistency.

- **Research intern in AI and acoustics - Dolby Laboratories** *Barcelona, June 2024 - August 2024*
  - Conducted research on generating Room Impulse Responses using deep neural networks conditioned on acoustic parameters, developing models like autoregressive transformers, flow matching, and MaskGIT to achieve state-of-the-art performance. Research paper submitted and under revision.

- **Teacher Assistant - KTH** *Stockholm, Spring and Autumn semester 2024*
  - Teacher assistant for the course DD2257 Visualization (Period 1) and DD1420 Foundations of Machine Learning (Period 3), responsible for grading assignments and conducting help sessions.

- **Undergraduate Research Fellow - UPC** *Barcelona, March 2022 - June 2023*
  - Exploration of the use of Diffusion Models and Generative Adversarial Networks (GANs) in the process of creation of digital graphics.

- **Data Science Intern - International Data Spaces Association** *June 2022 - September 2022*
  - Research about technologies and components used for implementing building blocks in a data space.

- **Advisor - Saló de l'Ensenyament 2022** *Barcelona, March 2022*
  - Selected by UPC to promote the BSc of Electrical Engineering amongst high school students.

Publications

- **A 3D terrain generator: Enhancing robotics simulations with GANs.** Silvia Arellano, Beatriz Otero, Tomasz Piotr Kucner, and Ramon Canal. LOD 2023.

- **Exploring Image Transformations with Diffusion Models: A Survey of Applications and Implementation Code.** Silvia Arellano, Beatriz Otero, Ruben Tous. LOD 2023.

Projects

- **Advanced Individual Course in Computer Science** *Stockholm, August 2024 - December 2024*
  - Addressing the challenge of motion in-betweening with diffusion models.

- **Challenge Based Innovation Project** *Barcelona - Genève, September 2022 - December 2022*
  - Developed a prototype comprising an electronic device and C# software to track tumor location in patients' bodies and create digital representations of tumors using data from the device.
  - Part of the EU-ATTRACT Academy Program, an international consortium comprised of CERN, ESADE Business School, and several other leading European research centres.

Awards

- **MOBINT Fellowship** *Government of Catalonia, 2023*
  - Awarded to the best students from Catalan universities to undertake academic stays abroad.

- **Research Collaboration Grant** *Spanish Ministry of Education, October 2022*
  - Awarded for conducting research in the Department of Computer Architecture (UPC).

- **Recognition to the best academic records** *ETSETB TelecomBCN, September 2021*
  - Ranked 6th out of 224 students in the initial module (first year).

- **Scientific Summer Camp** *Spanish Ministry of Education, July 2018*
  - Scholarship to carry out scientific projects and make a first approach to research at the Universidad Autónoma de Madrid.

- **High School Regional Merit Award** *Government of Aragón, January 2018*
  - Recognized as one of the top 15 out of 10.873 high school students in the Aragón region.

Leadership and Volunteering

- **HackUPC - Organizer and Marketing Director** *Barcelona, February 2020 - June 2023*
  - Directed a team of 5 people to manage the communication services for Europe's biggest student hackathon.
  - Organization of technological activities for students.

- **Delegació d'Alumnes de Telecomunicacions** *Barcelona, September 2019 - January 2023*
  - Part of the Student Council. Connection between the class, professors and students of other years.

- **BitsxLaMarató - Director and organizer** *2020, 2021 and 2022 edition*
  - Hackathon organized by FIB, BSC and Hackers@UPC contributing to La Marató de TV3, a public Catalan charity effort in order to raise money for biomedical research projects.

Skills

- **Programming experience:** Python, C, C++, C#, Matlab, Java, HTML
- **Other:** Pytorch, Scikit learn, OpenCV, NumPy, Git, Unity3D, Tensorflow
- **Languages:** Spanish (Native), Catalan (Native), Engish (Advanced, C1), French (Intermediate, B1)
- **Hobbies:** Canoe slalom, board games, swimming, crochet, Spanish guitar

References

- **Judith Bütepage (jbutepage@ea.com)**: Tech lead at SEED (Electronic Arts)
- **Daniel Arteaga (daniel.arteaga@dolby.com)**: Senior researcher at Dolby Laboratories Barcelona
- **Beatriz Otero (botero@ac.upc.edu)**: Professor and director of Computer Architecture Department at UPC