

# Marco PELLEGRINO

Mother Tongue: Italian | English: Excellent

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## WORK EXPERIENCE

### StruSoft

January 2022 – Present, Remote

[strusoft.com](https://strusoft.com)

API developer and Product Owner

- Development of FEM-Design API toolbox for Grasshopper/C# users.
- Defining roadmap, vision and communication with stakeholders
- Management of community and event gathering

### Format Engineers

June 2017 – January 2022, Bath

[formatengineers.com](https://formatengineers.com)

Senior Research Engineer



- Modelling and analysis of Free-Form Structure for the following projects: Burning Man 2018, Steam Punk 2019, MAP2, Concrete Shell (WIP), The Whale Tail
- Geometry Rationalization: k-means clustering, panel tessellation, mesh relaxation, developable surface, ...
- Solving Optimization problem related to structure behavior. Genetic algorithm, Multi-objective Optimisation, Pareto Front and Gradient Descendent
- Attending research conferences for networking and advertising the company
- Identifying emerging techniques promoting cutting-edge technologies to keep the business competitive in the market
- Training and mentoring colleagues at the use of techniques that transform the job more enjoyable and profitable
- Build strong relation with clients

### Alpaca4d

March 2020 – Present, Remote

[alpaca4d.github.io](https://alpaca4d.github.io)

Founder



- Writing a Library wrapper of OpenSees (tcl language) to be run with python
- Deployment with the use of Portable Python
- Writing Documentation
- Drawing icons and create Palette
- Mentoring a graduate student during COVID-19 pandemic
- Advertising on social media and get feedback from users

### AEI Progetti

December – May 2017, Florence



Graduate Structural Engineer

- Concrete Design of Slabs, Cores and Beams of a UEFA Stadium in Tirana
- Steel Design of Columns, Base Plates and roof of a UEFA Stadium in Tirana
- Implementation of a custom workflows to analyze connections parametrically. The process helped to save time for delivering the project and with higher margin.

TEACHING	<b>Architectural Association</b> <i>April 2019 - 2022</i>		<b>Politecnico di Torino</b> <i>Part-Time Tutor</i>	
	Tutoring Computational Design for architectural students during Term 3. The lessons have been hosted online for a class of 30 students.		Mentoring students for their Master Thesis dissertation. Aggregation and Space-Filling Polyhedron.	
EDUCATION	<b>University of Pisa</b> <i>2012/2016</i>		<b>University of Pisa</b> <i>2008/2012</i>	
	<i>Master Degree, STEM</i>		<i>Bachelor Degree, STEM</i>	
	<b>DeepLearning.AI</b> <i>June-September 2021</i>		<b>IBM</b> <i>March-April 2019</i>	
	Deep Learning Specialization		<i>Python for Data Science and AI</i>	
SKILLS COMPETENCIES	Geometry, Mathematics, Optimisation, <b>Research, Coding</b> Teamwork, Time Efficient, Organized, <b>Ability to work independently, Problem Solving</b> Flexible, Motivated, <b>Strong Initiative</b> , Rigorous, Critical Observation			
IDE Programming Design FEA	Jupyter Notebook, Colab, Sublime Text, Visual Studio Code <b>Python, JavaScript</b> , C#, JS, TCL, HTML, Protobuf Rhinoceros, Grasshopper, Blender Sap2000, Gsa, Karamba, OpenSees			
INTERESTS	Blogging, Video Production 3d Printing, Drone Differential Geometry , Coding, Machine Learning, AI, AR Art			
PUBLICATIONS	<ul style="list-style-type: none"> <li>Pellegrino, Chicocka, Migalska (2017). <i>Monarca, the implementation of Multi Objective Particle Swarm Optimization algorithm in a design optimization tool</i>. IASS</li> <li>Pellegrino, Klasz (2018). <i>K2E for Form-Finding &amp; Assembling</i>, AAG</li> <li>Pellegrino, Klasz, Melville (2018). <i>The revelance of self-formation in teaching structural design</i>, EUCEET</li> <li>Pellegrino, Andreussi (2020) – <i>Computational Design e Ingegneria Parametrica nel mondo delle costruzioni</i>, Lo Strutturista Press No.0</li> <li>Pellegrino, Andreussi (2020) – <i>SteamPunk. Ricerca, Fabbricazione e innovazione</i>, Lo Strutturista Press No.02</li> <li>Pellegrino, Andreussi (2020) - <i>Il tempio del Burning Man 2018</i>, Lo Strutturista Press No.3</li> <li>Pellegrino, Andreussi (2020) - <i>Work Smarter, Not Harder!</i>, Lo Strutturista Press No.4</li> </ul>			