

Alejandro Cuartero Molina

Industrial Design & Product Development Engineer



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PROFILE

Industrial Design & Product Development Engineer specialized in CAD design, mechanical design and reverse engineering. Skilled in developing manufacturable products through CAD modelling, FEA and topology optimization. Seeking opportunities in CAD and product engineering.

KEY PROJECTS

Automotive Steering Knuckle Redesign (Bachelor's Thesis - Honors Distinction, 9.3/10)

- Reverse engineered a **Ford Focus Active steering knuckle** using **3D scanning** and **mesh processing**.
- Redesigned the component through **topology optimization**, balancing weight reduction, structural performance and manufacturability.
- Achieved a **33.3% weight reduction** (from 6.3 kg to 4.2 kg) while maintaining a **safety factor > 2** under critical loading conditions.
- Performed **CAD modelling, FEA** and structural optimization considering sustainability and manufacturing constraints.

PROFESSIONAL EXPERIENCE

Freelance Technical Software Developer	2022-Present
- Developed 6+ commercial Unity development frameworks used by developers worldwide. - Managed the complete product lifecycle from concept to release. - Implemented scalable software architectures focused on usability and maintainability. - Delivered continuous feature updates based on customer feedback and maintained a 5/5 rating.	

EDUCATION

Bachelor's Degree in Industrial Design & Product Development Engineering	2021-2026
Universitat Politècnica de València	

TECHNICAL EXPERTISE

CAD Solidworks CATIA Fusion 360	Engineering Product Development Mechanical Design Reverse Engineering Finite Element Analysis (FEA) Topology Optimization	Manufacturing Design for Manufacturing (DFM) Design for Assembly (DFA) Technical Drawings
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AWARDS

Honors Distinction – Bachelor's Thesis (9.3/10) (Universitat Politècnica de València)	2026
15th Unity Awards – Best Development Tool (San Francisco, USA)	2023

LANGUAGES

Spanish - Native	English - C1 (C2 in progress)	German - Basic
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