

GRAPHICAL ENGINEERING IN SUPERIOR EDUCATION	METHODOLOGIES AND STRATEGIES BASED ON GRAPHICAL ENGINEERING	DIGITAL TOOLS AND ARTIFICIAL INTELLIGENCE	MANAGEMENT OF PRODUCTS AND PROCESSES	TOOLS AND METHODOLOGIES FOR MANAGEMENT AND ANALYSIS OF SPATIAL DATA
25-1 Evaluating the integration of artificial intelligent tools in graphical engineering courses Diego-José Guerrero-Miguel, María-Belén Prendes-Gero, Ruth Fernández García, Marta Menéndez Fernández, Rafael Rodríguez-Galindo Díez, Pablo Pando Cerra	25-5 A graphical method for determining the optimal position of the rtg carriage for dismantling by lowering optimal centroid. Raquel Gómez Cabrera, Juan Jesús Lara Sánchez	25-8 Assessing the current use of isolated buildings in andalusia through ai techniques Cristina Torrecillas, Francisco J. Ramos-Sánchez, Natalia Martínez-Gómez	25-15 Modeling and digital fabrication of the f50 sailgp catamaran using catia v5 and fdm technology José Serrano Gómez, Manuel Morato-Moreno	25-24 Modelling of historical buildings using 3d gis: the defensive wall of seville as a representative case study. Francisco M. Hidalgo-Sánchez, David Rubia-Caba, Emilio J. Mascort-Albea, Margarita Infante-Perea, Lorenzo Rodríguez-Ramírez.
25-2 Graphical expression in engineering: implementation of pbl and 3d printing as innovative pedagogical tools Idoia San Sebastian , Gaizka Erkizia, Eva Rodríguez , Maider Iturrondobeitia	25-6 Graphical techniques applied to the evaluation of animal movement José Manuel Valderrama-Zafra, Raúl Torres-Román, Antonia Oya-Lechuga	25-9 Innovating creativity: the role of generative artificial intelligence in graphic design education Mikki Schindler	25-16 From ux to design for wellbeing: which research is needed to develop pleasing products Aurora Berni, Yuri Borgianni	25-25 Urbanization and circularity: analyzing the role of urban growth in seville's circular economy transition Nadia Falah, Navid Falah, Jaime Solis-Guzman, Madelyn Marrero
25-3 Integrating cedg into descriptive geometry education: effects on academic performance Laura García-Ruesgas, Manuel Prado-Velasco	25-7 Flat patterns of general developable ruled surfaces in cedg Manuel Prado-Velasco, Laura García-Ruesgas	25-10 Data-driven approaches in engineering visualization for sustainable optimization of advanced construction materials Patricia Abril-Jiménez, Lucia Garijo Alonso, Sofia Sánchez-Mateo	25-17 Sustainable design using technical-functional and socio-collaborative tools Irene Ramos Lapesa, José Luis Santolaya Sáenz, Anna Biedermann, Natalia Muñoz López	25-26 Methodology for comparing the sustainability of different renewal models applied in retail spaces Aranzazu Fernández-Vázquez, Anna Maria Biedermann, Natalia Muñoz López, José Luis Santolaya Sáenz
25-4 An educational innovation project: learn to communicate with maps Carmen Marín , Víctor Cicuéndez, Mateo Pastrana, Alfonso Gómez, Cristina Velilla		25-11 Spatial data analysis towards achieving an artificial access consciousness (aac) using knowledge graphs (kg), large language models (llm), and graph-driven reasoning (gdr) Javier Arévalo, Juan I Latorre, Francisco J Flor, Eduardo Martínez	25-18 Use of finite elements to verify the aptitude of the iberian falcata for combat Emilio Ramírez-Juidias	25-27 Critical comparison between professional scanner and 3d scanning mobile application Marta Torres González, Margarita Infante Perea, Concepción Cantillana Merchante, José Carlos Galán Jiménez, Miguel León Muñoz
		25-12 Reframing urban morphology for ai. integrating qualitative datasets for specialized artificial intelligence. Caterina Juric, Ezgi Nur Güngör, Alessandro Lovisoto	25-19 Fabrication of an additive manufactured mold for the production of a drone engine cover using the infusion composites process Clara Luna Martin Compaired, Ramon Miralbes, David Ranz, Jose Antonio Gomez	25-28 Preserving the legacy: sfm-based photogrammetric reconstruction of the industrial olive oil heritage at Bonillo, Orly Enrique Apolo hacienda de quinto. Carmen Marín Buzón, Antonio Miguel Pérez Romero, Manuel José León Bonillo, Orly Enrique Apolo
		25-13 Advanced analysis of sashimono: a traditional japanese woodworking technique Jose-Andres Diaz-Severiano, Valentin Gomez-Jauregui, Noemi Barrat-Ramon	25-20 Assessing the sustainability of a childcare service in a rural area of zaragoza (spain) Laura Diago Ferrer, Jose Luis Santolaya Sáenz, Natalia Muñoz López	25-29 Machine learning-based classification of public works using user positioning data from gnss correction services Francisco J Ramos-Sánchez, Cristian Nieto Pareja, Cristina Torrecillas
		25-14 Generative artificial intelligence applied to the parametric drawing of floor plans. origins, evolution and current state. Fernando Vilaplana Universidad de Sevilla, Sevilla, Spain	25-21 Guidelines for the successful design of products with environmental certifications Lesly Sierra-Fontalvo, Yuri Borgianni , Aurora Berni , Laura Ruiz-Pastor	
			25-22 Optimization of printing parameters for a ceramic-adapted 3d printer Ana Pilar Valerga Puerta, Elena Cabrera-Revuelta, Nicolás Morales Blanco	
			25-23 Integration of smart products into product lifecycle management (plm): strategies for data capture and modeling Teresa Ramos-Calderón, Mª Jesús Ávila-Gutiérrez, Juan Ramón Lama-Ruiz	

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26-1 "smart heartbeats". a student project developed within the framework of multidisciplinary teaching Luis Taroncher, Aitana Vanaclocha, Ana García, Alejandro Rodríguez-Ortega, Sandra Munera	26-4 3d geometric and visual modeling applied to organic morphologies. Carmelo López, Alberto Cobos, Juan Antonio Peña , Sergio Sánchez-Fenollosa	26-6 Unlocking ai's creative potential in climate-responsive architectural design Jose Carlos Lopez Cervantes, Cintya Eva Sanchez Morales	26-13 Conceptual design of a collaborative nesting system for shipbuilding. Pablo Morato-Huerta, Juan Ramón Lama-Ruiz, Alejandro Manuel Martín-Gómez	26-20 Development of an application for visual exploration of hyperspectral images Sandra Munera, Francisco Albert, Alejandro Rodríguez-Ortega, Jose Blasco, Nuria Aleixos	26-27 Digitisation and geometry of the arches of the new bridge of ronda: comparative morphological analysis with other historic bridges and aqueducts Daniel Torres-Blanco, M. Carmen Ladrón-De-Guevara-Muñoz, Rafael Enrique Hidalgo Fernández, María Alonso-García
26-2 Learning to teaching industrial drawing: comparison with traditional methods Diego Francisco García-Molina, Juan Manuel Montalvo-Gil, Daniel Díaz-Perete, Eduardo Bonet-Martínez, Francisco Javier Carrasco-Vila, Bartolomé Carrasco-Hurtado	26-5 Comparative of estimation of crown volume of fruit trees by traditional methods and terrestrial lidar. Manuel José León Bonillo, Antonio Miguel Pérez Romero, Rubén Martínez Álvarez, Marta Díaz Vega, Carmen Marín Buzón	26-7 An analysis of the temporal consistency of the user's opinion about product design attributes: a case study with household products Carlos García-García, Almudena Palacios-Ibáñez, Julia Galán, Francisco Felipe-Miralles, Manuel Contero	26-14 A more sustainable scooter approach using natural composite materials. David Ranz, Clara Luna Martín, Carmelo Pina, Ramón Miralbes, Marcin Barburski, José Antonio Gómez	26-21 Geostatistical approaches for the estimation and validation of air pollution forecasting maps María Inmaculada Rodríguez-García , María Gema Carrasco-García, Maria Da Conceição Rodrigues Ribeiro, Alberto Camarero Orive, Francisco Javier González-Enrique, Ignacio J. Turias Domínguez	
26-3 Graphical expression in civil engineering degrees: content and methodologies Pedro Lastra-González, Borja Arroyo Martínez, Cristina Manchado, César Otero		26-8 Ai for automated processes in cad: from the origins to the latest trends in the area and how to apply it in the cad lessons. Eva Rodríguez Hortelano, Maider Iturrondobeitia Ellacuria	26-15 Advanced design of non-pneumatic wheels for wheelchairs: simulation and manufacturing with 3d technologies Bernardo Pajares Moreno, Maria Moncho, Guillermo Peris, Ismael Lengua, Beatriz Defez, David Diaz	26-22 Tree volume calculation through in-field photogrammetry for estimating growth evolution Alejandro Rodríguez-Ortega, Beatriz Rey, Sergio Cubero, Ana Quiñones, Sandra Munera, Francisco Albert, Luis Taroncher, Jose Blasco, Nuria Aleixos	
		26-9 Design, modeling, and optimization of a biomechanical finger for a pediatric prosthetic hand Pablo Medina-Coello, Blas Salvador-Dominguez, Ignacio Díaz-Cano, Rogelio Del Pino Algarra, Arturo Morgado-Estevez	26-16 Transforming andalusia's industrial sector through eco-design: new timber construction systems for multi-storey buildings Antonio Jesús Rodríguez Pérez, Antonlino Gallego Molina, Lázuli Fernández Lobato, Juan Franquelo Soler	26-23 Uncertainty of 3d modelling of an overhead power line using a geographic information system Laia Miravet Garret	
		26-10 Digital twins models applied to cxl treatments of corneas affected with keratoconus. Jose González, Carmelo Gómez, Francisco Cavas	26-17 Design and implementation of a 3d-printed outlet cover for an open turbine in irrigation systems Antonio Garcia Chica, Julio Jose Caparroz Mancera, Angel Mariano Rodríguez Perez, Cesar Antonio Rodríguez González	26-24 3d indoor evacuation plans from point clouds for visually impaired people. Iván Puente, Lucía Díaz Vilarriño	
		26-11 Discrepancies in corneal material parameter estimation: comparing tensile and inflation tests in biomechanical modeling José González Cabrero, Carmelo Gómez, Francisco Cavas	26-18 Mechanical characterization of compression-molded discontinuous carbon fiber/epoxy composites Javier Martín Domínguez, Patricia Mora Segado, Guillermo Plaza García	26-25 Using lidar to model 3d tree structures and to estimate tree metrics in almond crops Mateo Pastrana, Victor Cicuéndez, Cristina Velilla, Carmen Marín, Alfonso Gómez	
		26-12 Design of wearable telecare devices for older adults: emotional, social, and cognitive challenges Eva Tausiet, Roberto Casas, Teresa Blanco	26-19 Comparison of photosensitive resins and filaments for additive 3d printing of orthopedic devices Elena Arce, Rosa Devesa-Rey, Roi Paineira-Villar, Raquel Leirós-Rodríguez, Bibiana Trevisón-Redondo, Ana García-Diez	26-26 Gis-ahp based study of a power generation plant in the province of huelva (spain) José-Lázaro Amaro-Mellado, Gerard Paulet-Alòs	

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27-1 Functional dimensioning based on a 3d nominal model M Ángeles Esandi-Baztan, Antonio Valin, Fernando Brusola	27-4 Generative design of the swingarm of a motorbike Xabier Amezua, Mikel Iturrate, Haritz Uriarte, Gaizka Erkizia, Olatz Etxaniz, Mikel Jauregi, Xabier Garikano, Eneko Solaberrieta	27-6 Innovation in digital health and assistance: from wearable devices to integrated care ecosystems Eva Tausiet, Alvaro Marco, Roberto Casas, Teresa Blanco	27-14 Study of dimensional tolerances in additive manufacturing using commercial equipment Eduardo Vázquez López, Francisco Andrés Valderrama Gual, Jose ángel Sevillano Caraballo, Pablo Sánchez Jiménez	27-24 Landscape restoration of the murcian huerta: integration of the barraca as a prototype of minimal and sustainable housing Pedro Pina Ruiz, Tomas Gil Lopez, Amparo Verdu-Vazquez, Sebastian Alcaraz Garcia	27-27 Design of an evolving cot convertible into a montessori bed Aída López López
27-2 Application of multiple simultaneous methodologies in the realisation of cad practices. Rocío Rodríguez, Rubén Rodríguez, Juan Fernández, Manuel Pablo Rubio, Pedro Hernández	27-5 Meshing strategies for cfd simulations of lubricated mechanical components in open-source software Lorenzo Maccioni, Franco Concli	27-7 Artificial intelligence in museums: an overview of facial expression analysis techniques in museum-space-visitor interaction Giusi Castaldo, Elena Laudante, Elidia Beatriz Blázquez-Parra, Enrique Domínguez Merino , Mario Buono	27-15 Moving to organic goods and materials to reduce global warming potential emissions. Sara Barandiaran Oliveras, Ortzí Akizu-Gardoki, Cristina Peña Rodríguez, Rikardo Minguez, Ertantz Lizundia Fernández	27-25 Geometric analysis of san esteban church: new perspectives through 3d modeling Margarita Infante Perea, Gregorio Manuel Mora Vicente, Concepción Cantillana Merchante, José Carlos Galán Jiménez	
27-3 Support of 3d printing in the teaching of graphic expression subjects in engineering in engineering degrees Manuel Ignacio Bahamonde García		27-8 Facial scanning protocol in preterm newborns for the manufacture of custom nasal masks Antonio Martín	27-16 Optimising rheology and printability of a natural hydrogel for 3d bioprinting Alfonso Carlos Marcos Romero, David Picado Tejero, Laura Mendoza Cerezo, Juan Pablo Carrasco Amador, Jesús Manuel Rodríguez Rego	27-26 Optimization of a uav lidar flight plan to maximize lidar beam reflections on the ground under canopy Juan José González-Quñones, Juan Francisco Reinoso-Gordo, Francisco Javier Ariza-López, Manuel Antonio Ureña-Cámara	
		27-9 Building a digital twin of the roman public works heritage in hispania Antonio Alfonso Arcos Álvarez, Ángela Moreno Bazán, Jesús María Alonso Trigueros, Salvador Senent Domínguez	27-17 Modelling and additive manufacturing of gelma-based bioinks applications in bioengineering Laura Mendoza Cerezo, Francisco De Asís Iñesta Vaquera, Juan Pablo Carrasco Amador, Alberto Moreno Becerro, Jesús Manuel Rodríguez Rego		
		27-10 Designing digital twins for smart climate control in pig farming: applying iot and lora technology to modernize farm facilities Pablo Bosque, Miguel Ángel Torres, Ignacio Martínez, Jorge Sierra	27-18 Design and manufacture of a device for the transport of biological material in 3d bioprinting Francisco Jesús Moral García, Alfonso Carlos Marcos Romero, Jaime González Domínguez, Emiliano Pérez Hernández, Juan Carlos Gómez Blanco, José Blas Pagador Carrasco		
		27-11 Remote identification of biofouling on submerged surfaces: image analysis and deep learning-based approaches Emmanuele Barberi, Maria Francesca Alberghina, Luciana Randazzo, Michela Ricca, Felice Sfravara	27-19 A look at energy efficiency and sustainability in industrial agri-food projects through engineering graphics and eco-design Fernando Gómez-Hermosa, Lázuli Fernández-Lobato, M.Carmen Ladrón-De-Guevara-Muñoz, Yaiza López-Sánchez, Elidia Beatriz Blázquez-Parra		
		27-12 Integrating AI and Voice Technology for Efficient Industrial Drawing Evaluation Ubieto-Artur, Pedro; Rollo-Sánchez, Cristina; García-Hernández, César.	27-20 Integration of graphic information with performance data to be used in built digital models Aitor Aragón Basabe, Amparo Verdu-Vazquez, Mercedes Valiente Lopez, Marcos García Alberti		
		27-13 Exploring large language models for cad automation: a case study with catia scripting Héctor De Pablo Pascual, Santiago Delgado Vaquero, David Escudero-Mancebo	27-21 obtaining layout in a simple way Jose Luis González-Cespon		
			27-22 Process of modeling a three-phase steam engine using 3dexperience student software Rafael Ortiz-Marín, María Gloria Del Río-Cidoncha, Francisco Javier Melero-Morales, Alfonso Emilio Martínez-Del Río		
			27-23 Augmented reality for machinery layout optimisation in olive oil mills: an innovative approach Diego Francisco García-Molina, Jorge Manuel Mercado-Colmenero, Adonis Jose Pabuenagarcía, Cristina Martín-Doñate		