

Arturo Vicente Jaén

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Personal Profile

A University of Murcia PhD student in Computer Sciences who is enrolled with the Optics Laboratory's of the same university (LOUM). Dedicated to image processing, computer vision, parallel programming, especially using CUDA and GP-GPUs in several national and international projects. Currently enrolled in PhD in "Design of real time systems using accelerators and deep learning techniques applied to human visual optics".

Education

University of Murcia

MSc in New Technologies in Computer Sciences

Murcia, Spain

Sept 2022 - July 2023

- Specialisation in High-Performance Architectures and Supercomputing.
- Thesis title: "Development and analysis of a high performance pupil tracking system using acceleration."
- Average grade: 9.84/10

University of Murcia

Computer Engineering

Murcia, Spain

September 2018 - July 2022

- Thesis title: "Development of a real-time system for 4D volumetric reconstruction of OCT images."
- Intern Student in Computer Architecture and Organization Department, where I have worked with a Xilinx FPGA. Collaboration grant holder.
- Average grade: 9.31/10.

Experience

Optics Laboratory of the University of Murcia (LOUM)

Full-time Research Fellow

Murcia, Spain

September 2022 - Current

- Involved in multiple projects linking visual human optic, high performance computing (HPC) and computer vision.
- Fundación Séneca FPI PhD grant

Voptica

Curricular internships

Murcia, Spain

February 2021 - May 2021

- Enrolled out on the VAO adaptive visual optics system improving the GUI and image processing.

Publications

Journals

LOUM

- Vicente-Jaén, Arturo, Mompeán, Juan, Aragón, J.L., Artal, P. "VolRec: 4D real-time volumetric reconstruction of OCT data", The Journal of Supercomputing, 81:472, (2025).
- Jesus Cámara, Javier Cuenca, Victor Galindo, Arturo Vicente, Murilo Boratto. "An autotuning approach to select the inter-GPU communication library on heterogeneous systems", The Journal of Supercomputing, 81:283, (2025).
- Santiago Sager, Arturo Vicente-Jaen, Zhenghua Lin, Pedro M. Prieto, Zhikuan Yang, Weizhong Lan, and Pablo Artal, "Ultra-wide-angle peripheral refraction using a laser-scanning instrument," Biomed. Opt. Express 15, 6486-6498 (2024).

Conferences

LOUM

- Zhenghua Lin, Juan Mompeán, Arturo Vicente-Jaen, Juan Luis Aragón, Zhikuan Yang, Weizhong Lan and Pablo Artal, "Gazing distance evaluation with a novel portable eye tracker". In Internation Myopia Conference 2024 (IMC 2024), Hainan, China, 2024.
- Santiago Sager, Arturo Vicente-Jaén, Zhenghua Lin, Pedro Prieto, Zhikuan Yang, Weizhong Lan, and Pablo Artal, "Ultra-wide-angle peripheral refraction using a novel laser-scanning peripheral refractor". In Internation Myopia Conference 2024 (IMC 2024), Hainan, China, 2024.
- Vicente-Jaén, Arturo, Mompeán, Juan, Aragón, J.L., Artal, P. "cuElSe y cuExCuSe: seguimiento pupilar de alto rendimiento mediante GPUs". In XXXIV Jornadas de Paralelismo (JP2024), A Coruña, España, Junio 2024.
- Vicente-Jaén, Arturo, Mompeán, Juan, Aragón, J.L., Artal, P. "Gaze distance estimation for automatic presbyopia correcting spectacles using neural networks". In 2024 Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Seattle, EEUU, Mayo 2024.

Skills

Programming

C/C++, CUDA, OpenMP, Python (Scikit-learn, OpenCV etc.), DNNs (Pytorch and TensorFlow), Artificial Vision, Android (JAVA), C#, ...

Miscellaneous

3D Design and Print (Fusion360), Electronics Desing (Eagle, Kicad), Linux, Git., OCT, Pupil Tracking, Eye imaging, Data analysis, wavefront sensing analysis

Soft Skills

Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation, Commitment and dedication.

References available upon request.