CÓRDOBA
ARGENTINA

CARLA

2026

LATIN AMERICA HIGH PERFORMANCE COMPUTING CONFERENCE
September 21-25

CARLA
Sponsorship
Prospectus

Introducing
CARLA Conference

The Latin America High Performance Computing Conference (CARLA) is the premier international event focused on advancing high performance computing (HPC) in Latin America and the Caribbean.

CARLA has attracted participants from **over 30 countries across six continents.** It has become a vital platform for exchanging innovative ideas and research in HPC, engaging audiences from both **private and public sectors** interested in transformative technologies.

As the flagship HPC conference in the region, CARLA gathers global experts to **showcase advancements in HPC and artificial intelligence (AI)**, emphasizing their role in driving innovation and development.

2021 — GUADALAJARA, MÉXICO
2016 — MEXICO CITY, MÉXICO
2025 — KINGSTON, JAMAICA
2019 — TURRIALBA, COSTA RICA
2023 — CARTAGENA DE INDIAS, COLOMBIA
2018 — BUCARAMANGA, COLOMBIA
2020 — QUITO, ECUADOR
2015 — PETRÓPOLIS, BRAZIL
2022 — PORTO ALEGRE, BRAZIL
CÓRDOBA, ARGENTINA — 2026
2014 — VALPARAISO, CHILE
2017 — BUENOS AIRES, ARGENTINA
2024 — SANTIAGO, CHILE

What to Expect
at CARLA

CARLA 2026 will be a significant event, drawing 200-300 attendees from Cordoba and worldwide, including key public and private sector representatives.

Tailored to the needs of Cordoba, CARLA 2026 will empower attendees to leverage HPC and AI for strategic growth and innovation. Topics will focus on **addressing critical vulnerabilities, enhancing returns on investment (ROI), and growing institutional capacities.** Experts, including speakers from organizations like NASA, will share groundbreaking discoveries and best practices, ensuring stakeholders gain actionable insights.
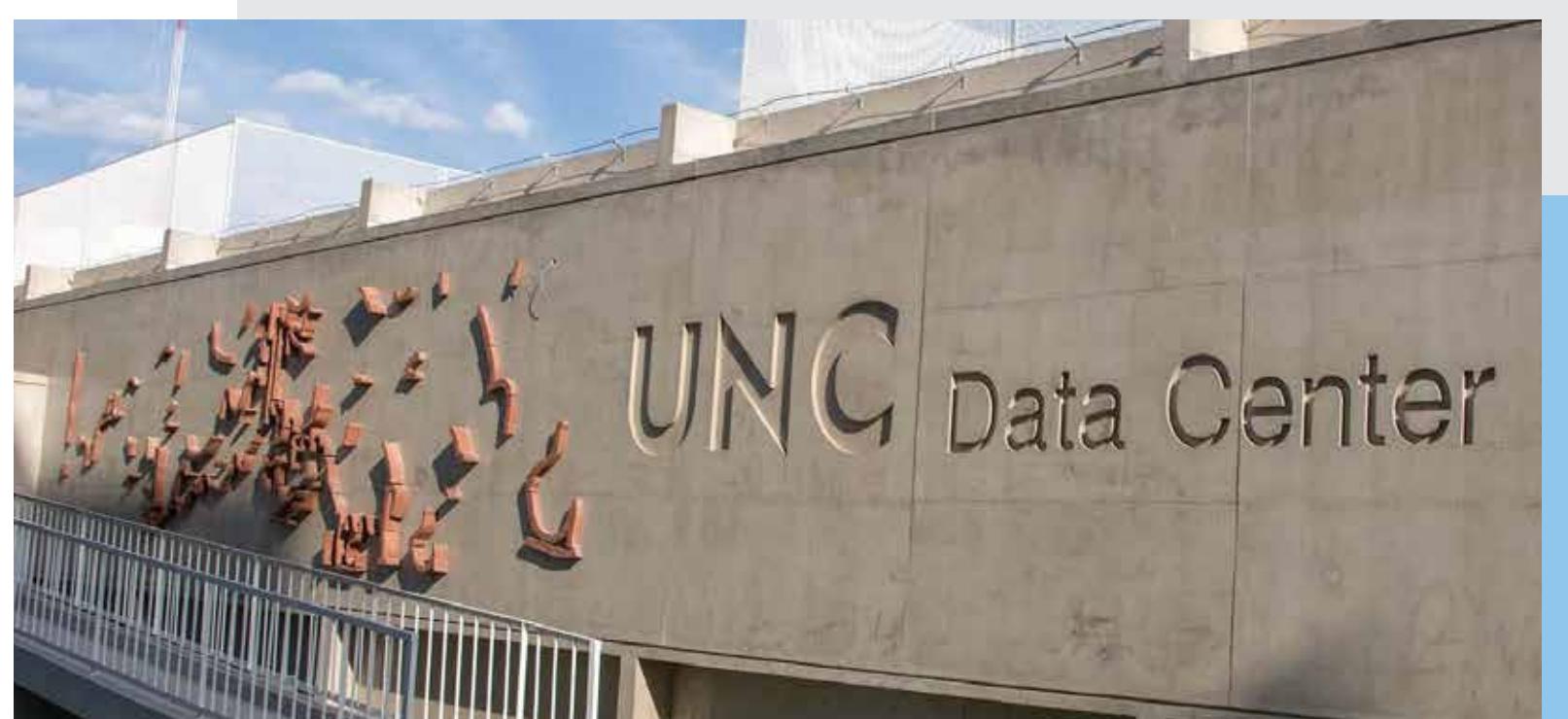
Before the conference

- Media interviews
- Social media campaigns
- Information webinars
- Student & community outreach

During the conference

- Industry talks and panels
- Keynotes & presentations
- Workshops and tutorials
- Exhibition "Open Day"
- DevOps School for HPC

General Chair
Nicolás Wolovick

Dr. Wolovick is an Associate Professor at FAMAF, National University of Córdoba. He currently serves as Director of UNC Supercómputo (CCAD), the university's High-Performance Computing Center. He holds a PhD in Computer Science from UNC, and his work spans high-performance and dependable computing, bridging research, academic training, and advanced computing services for the scientific community.

Sponsor Chair
Ginés Guerrero

Dr. Guerrero is a scientist at the University of Chile and the director of Chile's National Laboratory for High-Performance Computing (NLHPC), where he promotes the application of high-performance computing in science, industry, and public policy.

General Co-Chair
Carla Osthoff

Dr. Osthoff is a senior researcher in High-Performance Computing at Brazil's National Laboratory for Scientific Computing (LNCC). She coordinates LNCC's National High-Performance Processing Center (CENAPAD) and leads collaborative initiatives that support advanced computing for research and innovation. She holds a PhD in Systems and Computer Engineering, and her work focuses on parallel and distributed scientific computing.

Sponsor Co-Chair
Luis Biedma

Dr. Biedma is the Secretary of Innovation and Technology Transfer at FAMAF, National University of Córdoba, where he is in charge of the initiatives that generate and transfer knowledge from academia to industry and governments. His research specializes in Optimization, Numerical Linear Algebra and Data Science.

Why Sponsor
CARLA in Cordoba?
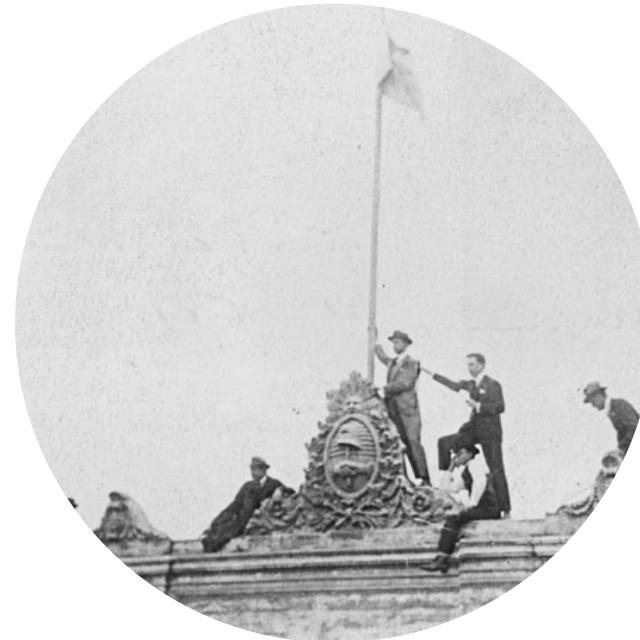
Córdoba is the second largest city in the country and it holds the second oldest University in America (1613). **Universidad Nacional de Córdoba**

CARLA 2026 is organized by the most important HPC Center in Argentina. **UNC Supercómputo**

Córdoba is equidistant from the Pacific and the Atlantic making a good location for MERCOSUR market.

It also has an international airport with direct connections to Chile, Peru, Colombia, Paraguay, Panama and Spain.

CARLA is returning to Argentina after 9 years, to the and the HPC panorama changed dramatically. **Cradle of Reforma Universitaria**

The country has a **TOP500** and the number of clusters increased four-fold.

Córdoba is very attractive to sponsors since it is a hub for the tech ecosystem. **Córdoba Cluster**

It also has a strong metalwork, agricultural and food industry sector.
Cordoba is a **premier tourist destination** with many attractions to visit.

For more information you can visit **Why Córdoba**.
You can download the **brochure.**

As a sponsor, you will receive special access to international experts, host a booth to promote your services to potential clients and partners, and position your brand at the forefront of technological advancement of Latin America and the Caribbean.

Harnessing High-Performance Computing (HPC) and Supercomputing

HPC and supercomputers are transforming industries and our way of life. These technologies have fueled the AI revolution, leading to advancements like ChatGPT. Supercomputers tackle global challenges, from designing spacecraft and predicting weather to advancing medical research and optimizing business operations. HPC empowers businesses and governments with exceptional data analysis capabilities, enhancing decision-making and maximizing ROI. Notable applications of HPC and AI include:

- Enhancing fraud prevention with big data at Alibaba

- Improving urban safety with advanced crime prediction

- Reducing traffic congestion with smart technology

- Revolutionizing agriculture by predicting crop yields with AI

For more details, please refer to the supporting documents.

Understanding HPC and Supercomputing

High performance computing (HPC) and supercomputing are at the forefront of innovations like AI and cloud computing. Supercomputers can possess hundreds or thousands of processors and offer computing power far beyond traditional servers. They excel in processing vast data, solving complex problems like weather forecasting and real-time analytics, supporting stakeholders in managing risks and optimizing outcomes. HPC includes both large-scale supercomputing and advanced computing at smaller scales, featuring innovative data analytics, energy-efficient technologies, and scalable solutions for businesses.

SPONSORSHIP
LEVELS

NEW

	DIAMOND	PLATINUM	GOLD	SILVER	BRONZE	HPC FUTURE*
Logo on exclusive gifts (like pendrives, pen or mug)	✔					
Special mention of the company during opening and closing sessions	✔ (primary)	✔ (secondary)				
Special mention of the company in social networks	✔ (primary)	✔ (secondary)				
Industrial talk during a social event or regular program	25 min	20 min	5 min	5 min	5 min	
Industrial / Technical talk for HPC sysadmins	2h	1h	45 min	20 min	20 min	
Conference Industrial-guest passes	7	5	4	1 (+2 with stand)	0 (+2 with stand)	
The company's banner is displayed during plenary talks and press conference	✔ (keynote session floor + especial placement)	✔ (secondary)	✔ (tertiary)			
An exhibit stand for sharing the company's information during the event	✔ (special stand)	✔	✔			
The company's logo will appear on all publicity material	✔ (primary)	✔ (secondary)	✔ (tertiary)			
The company's logo will appear on the social networks and conference screens	✔ (primary)	✔ (secondary)	✔ (tertiary)	✔ (tertiary)		
The company's logo will appear on the conference website	✔ (primary)	✔ (secondary)	✔ (tertiary)	✔ (tertiary)		
Company's material included in the registration package	✔	✔	✔	✔	✔	✔
Investment (USD)	**$30.000**	**$15.000**	**$10.000**	**$5.000 (+$750 stand)**	**$2.500 (+$1.500 stand)**	**$1000**

NEW *This is a new category. All the raised money will be given as travel and accommodation grants to students, the HPC Future.

Examples HPC Research and Application

HPC and FINANCE
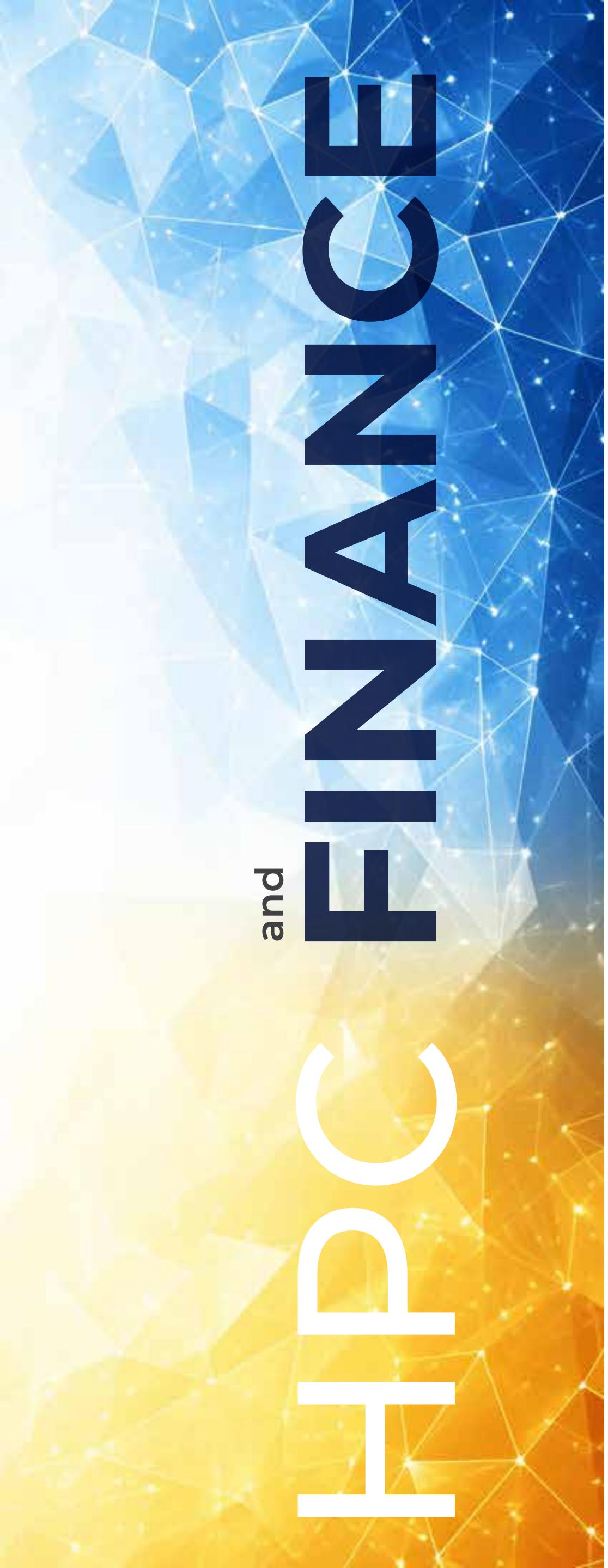
Enhancing Fraud Prevention
with Big Data at Alibaba

Imagine a world where online transactions are safer and more secure, thanks to cutting-edge technology. Alibaba has developed a powerful fraud risk management system that uses big data to detect and prevent fraudulent activities in real-time. By analyzing vast amounts of user behavior data, this system can accurately identify suspicious transactions and protect both buyers and sellers. Alibaba's innovative approach extends beyond its own platform with AntBuckler, a product designed to help merchants and banks combat cybercrime. AntBuckler uses advanced risk models to assess the threat level of transactions, providing a clear, visual representation of potential risks. This groundbreaking work not only enhances security but also builds trust in digital commerce, paving the way for a safer online environment for everyone.

Chen, J. et al. (2015). Big data based fraud risk management at Alibaba. The Journal of Finance and Data Science, Vol. 1, No. 1, pp. 1-10. https://-doi.org/10.1016/j.jfds.2015.03.001

Revolutionizing Finance:
The Impact of High Performance
Computing and AI

Discover how the powerful combination of High Performance Computing (HPC) and Artificial Intelligence (AI) is reshaping the financial industry. From lightning-fast data processing to enhanced fraud detection and personalized customer insights, this technological duo is driving efficiency and innovation in finance. This article spotlights the world where milliseconds can mean millions and highlights how financial firms are leveraging these cutting-edge tools to stay ahead in a rapidly evolving landscape.

Whitefield-Madrano, A. (2024), "How Does High Performance Computing and AI Help Financial Firms?", BizTech Magazine, https://biztechmagazine.com/article/2024/02/how-does-high-performance-computing-and-ai-help-financial-firms-perfcon

Enhancing Public Safety:
Real-Time Violence Detection with AI-Powered Surveillance Systems

Imagine a city equipped with advanced surveillance cameras that can automatically detect violent behavior in real-time, alerting authorities without needing someone to constantly monitor the footage. This study from Peru provides the foundation for such technology, making public spaces safer by quickly identifying and responding to dangerous situations. By improving the efficiency and accuracy of violence detection, this research supports efforts to enhance community safety and can guide future developments in technology aimed at preventing violence.

Classification of Physical Violence Actions Using Convolutional Neural Networks with Transfer Learning

Díaz, J.E.G., Rodríguez, C. (2024). Classification of physical violence actions using Convolutional Neural Networks with transfer learning. International Journal of Safety and Security Engineering, Vol. 14, No. 5, pp. 1347-1355. https://doi.org/10.18280/ijsse.140501

Enhancing Urban Safety with
Advanced Crime Prediction

Imagine a tool that helps city planners and law enforcement anticipate crime patterns more accurately, allowing them to allocate resources effectively and improve public safety. This study introduces a groundbreaking model called Multi-type Relations Aware Graph Neural Networks (MRAGNN), which analyzes the relationships between different types of crimes to predict future occurrences. By understanding these correlations, the model provides more precise predictions, addressing challenges like data imbalance and prediction bias. Tested on crime data from Los Angeles and Chicago, MRAGNN outperforms existing methods, offering valuable insights for urban management and helping create safer communities.

Wang, S. et al. (2025). MRAGNN: Refining urban spatio-temporal prediction of crime occurrence with multi-type crime correlation learning, International Journal of Expert Systems with Applications, Vol. 265. https://doi.org/10.1016/j.eswa.2024.125940

HPC and INFRASTRUCTURE
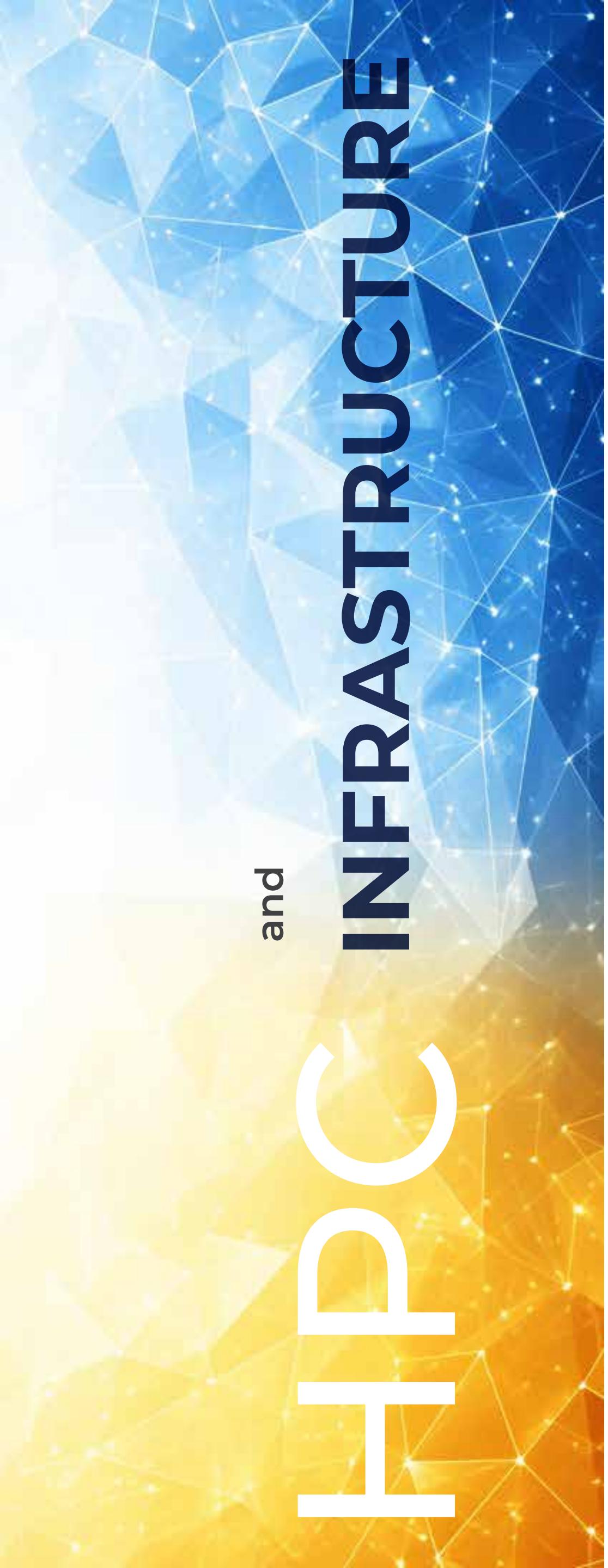
Reducing Traffic Congestion
## with Smart Technology

Imagine living in a bustling city where traffic congestion is a daily struggle, causing delays and frustration. Researchers have developed a cutting-edge solution using artificial intelligence to optimize traffic lights, making your commute smoother and faster. By analyzing real-world traffic patterns, this system intelligently adjusts signal timings at intersections, reducing congestion and improving traffic flow. Tested in Chattanooga, Tennessee, this approach has shown significant improvements, helping drivers spend less time in traffic and more time enjoying their day. In fact, this innovative system has been shown to reduce the average number of vehicles in congested areas by nearly 20% compared to traditional methods, significantly easing traffic woes and enhancing urban mobility. This innovation promises to transform city life, making it more efficient and less stressful for everyone.

Z. Yin, T. Liu, C. Wang, H. Wang and Z. -P. Jiang, "Reducing Urban Traffic Congestion Using Deep Learning and Model Predictive Control," in _IEEE Transactions on Neural Networks and Learning Systems_, vol. 35, no. 9, pp. 12760-12771, Sept. 2024, doi: 10.1109/TNNLS.2023.3264709

Transforming Data Centers
for a Greener Future

This work systematically examines green-aware management techniques for sustainable data centers, emphasizing the integration of renewable energy, optimization of resource use, and waste heat recovery. By adopting strategies such as workload management, virtual resource consolidation, and advanced cooling techniques, data centers can significantly reduce energy consumption and carbon emissions. For instance, implementing liquid cooling systems can lower Power Usage Effectiveness (PUE) to below 1.09, while integrating renewable energy sources can increase solar utilization by up to 39.6% and save energy costs by 11.1%. These advancements are pivotal in driving the transition towards greener computing infrastructures, supporting the digital economy, and contributing to global carbon neutrality goals.

Lin, W. et al. (2024). A systematic review of green-aware management techniques for sustainable data center, Sustainable Computing: Informatics and Systems, Vol. 42, https://doi.org/10.1016/j.suscom.2024.100989

AGRICULTURE

and

HPC
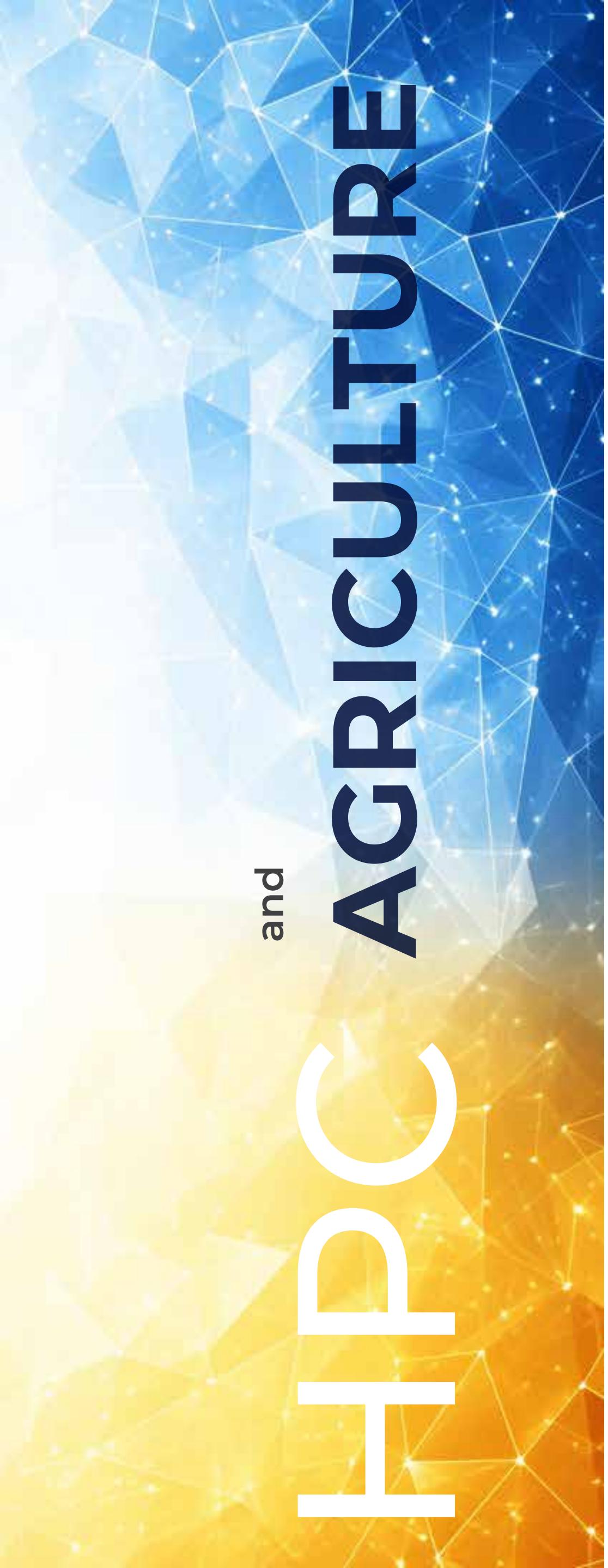
Smart Farming: Harnessing Edge
AI for Sustainable Agriculture

Imagine a world where farming is smarter and more efficient, helping to feed a growing global population while protecting the environment. This vision is becoming a reality with the use of edge artificial intelligence (AI) in agriculture. Edge AI involves using smart devices on farms to collect and analyze data in real-time, allowing farmers to make informed decisions about water use, pest control, and crop health. This technology not only boosts productivity but also reduces resource consumption, making farming more sustainable. By addressing challenges like climate change and resource scarcity, edge AI is paving the way for a future where agriculture can thrive without compromising the planet's health. This innovative approach promises to enhance food security and sustainability, benefiting farmers, consumers, and the environment alike.

El Jarroudi et al. (2024). Leveraging edge artificial intelligence for sustainable agriculture. Nature Sustainability, Vol. 7, pp. 846–854, https://-doi.org/10.1038/s41893-024-01352-4

Revolutionizing Agriculture:
Predicting Crop Yields with AI

Imagine a tool that helps farmers predict how much fruit their trees will produce, allowing them to plan better and manage resources more efficiently. This study introduces a groundbreaking approach using artificial intelligence to estimate crop yields and monitor plant growth stages, specifically tailored for fruit farms in Chile. By analyzing satellite images, climate data, and detailed pictures of fruit trees, the tool provides farmers with accurate predictions, helping them decide when to harvest and how to allocate resources effectively. This innovative method not only boosts productivity but also supports farmers in making informed decisions, ultimately enhancing their ability to meet market demands and improve their livelihoods.

Altimiras, F. et al. (2025). A Computational Framework for Crop Yield Estimation and Phenological Monitoring. In: Guerrero, G., San Martín, J., Meneses, E., Barrios Hernández, C.J., Osthoff, C., Monsalve Diaz, J.M. (eds) High Performance Computing. CARLA 2024. Communications in Computer and Information Science, vol 2270. Springer, Cham. https://doi.org/10.1007/978-3-031-80084-9_14

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