

# Justas Brazauskas

✉ justas.xyz   ✉ jb2328@cam.ac.uk   ☎ +44 7308 146 437   in brazauskasJ

## Education

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<b>PhD Computer Science</b> <i>University of Cambridge</i>	09.2022 – 11.2025
<ul style="list-style-type: none"><li>Thesis: <i>Digital twins: from sensor design to real-time data visualization.</i></li><li>EPSRC full-ride scholarship; College prize for academic performance.</li></ul>	
<b>MRes Sensor Technologies</b> <i>University of Cambridge</i>	09.2021 – 09.2022
<b>BASc Sciences and Engineering</b> <i>University College London (UCL)</i>	09.2016 – 05.2019

## Experience

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<b>Research Assistant (Systems) / PhD Candidate</b> <i>University of Cambridge</i>	09.2019 – 11.2025
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Built a low-latency digital twin system with real-time async data ingestion, edge AI sensors, and role-specific visualisation layers for in-building monitoring and derived intelligence.

- **Systems engineering:**  
Built async pub-sub data pipelines for >400 IoT sensors (~2M msgs/day) with reliable ingestion and routing.
- **Client-server integration:**  
Designed APIs and WebSocket data streams powering interactive D3.js and Unity visualisation dashboards.
- **Real-time machine learning:**  
Integrated event-detection models on edge devices with end-to-end latency <100 ms and stable throughput.
- **Usability evaluation:**  
Designed, implemented, and executed user studies, creating a systematic framework for UI optimisation.

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<b>Entrepreneurship Fellow, EnterpriseTECH</b> <i>Cambridge Judge Business School</i>	09.2025 – 11.2025
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Devised commercialisation strategies for emerging technologies in large-scale manufacturing, focusing on market viability.

- **Tech-to-market analysis:**  
Worked in a 5-person team to assess commercial viability of early-stage technologies via market and user research.
- **Innovation & pitching:**  
Developed value propositions, go-to-market strategies, investor-style pitch materials, and delivered presentations.

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<b>Applied Scientist</b> <i>Roku</i>	06.2025 – 08.2025
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Completed an internship applying machine learning in a product-driven environment, with experience in model development.

- **ML optimisation:**  
Built and benchmarked custom loss functions for ML-based image-quality metrics, achieving 2× accuracy gains.
- **Stakeholder communication:**  
Delivered analyses and presentations to product, engineering, and management on performance-cost trade-offs.

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<b>Machine Learning Architect</b> <i>InferSens (part-time)</i>	09.2022 – 05.2024
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Developed a machine learning system for non-invasive water flow detection using multivariate time-series classification.

- **Embedded ML:**  
Designed ML pipelines for constrained devices, improving operating efficiency and extending battery life by 30%.
- **Performance optimisation:**  
Rewrote event-detection ML models from Python to C, achieving 5× speedup and reduced on-device load.
- **IoT integration:**  
Connected LoRaWAN sensors to AWS and Grafana for real-time monitoring and diagnostics.

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<b>Research Assistant (HCI)</b> <i>UCL Interaction Centre (UCLIC)</i>	06.2019 – 06.2020
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Created wearable and stationary sensor systems and live data visualisation to aid teaching computing curriculum to students.

- **System design:**  
Designed Arduino devices linking embodied movement and data representation for 12–14-year-old students.
- **HCI research:**  
Ran school workshops, conducted qualitative analysis, and published the results as first author at DIS'21.

## Skills & Interests

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<b>Programming:</b>	Python, JavaScript, C#, Bash, SQL
<b>ML/AI:</b>	PyTorch, TensorFlow, scikit-learn, ONNX, MLflow
<b>Data/Visualisation:</b>	D3.js, Unity, React, Pandas, NumPy
<b>Cloud/Infra:</b>	AWS, Docker, Kafka, Git, CI/CD
<b>Sports:</b>	Marathon events - Cambridge Boundary Run 42K, UTMB Verbier 50K