



Jady Pamela

AI Engineer Focused on Digital Twins and AI Safety | PhD Fellow, Aarhus University | Peer-Reviewed in Elsevier

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SUMMARY

PhD Fellow at Aarhus University building digital twins that verify district cooling systems run as designed (SWiM, funded by the Grundfos Foundation). Background in real-time LiDAR perception for autonomous drones (F1 0.926, 29× faster inference on edge hardware) and in cybersecurity for the public sector, with a paper in Computers and Security (Elsevier, 2025). 12+ years of engineering in regulated banking.

Research focus: Digital twins for district cooling: fault localisation on sensor-sparse cooling networks, testing digital twin fault monitors, and integrating building models (BIM) into digital twin platforms. Trustworthy AI and cybersecurity for critical infrastructure.

EDUCATION

PhD Fellow, Digital Twins for District Cooling (SWiM), Aarhus University Aug 2026 to Present, Aarhus, Denmark
Supervisors: Peter Gorm Larsen and Carl Peter Leslie Schultz. Funded by the Grundfos Foundation.

MSc Computer and Systems Sciences (AI and IoT), Swedish Institute Scholar (SISGP), Stockholm University Aug 2024 to May 2026, Stockholm, Sweden

Professional Master's in Electrical Engineering, cybersecurity area (PPEE), University of Brasilia (UnB) Mar 2024 to May 2026, Brasilia, Brazil

BSc Information Systems, UPIS Faculdades Integradas 2010 to 2013, Brasilia, Brazil

PUBLICATIONS

Enhancing Cybersecurity in the Judiciary: Integrating Additional Controls into the CIS Framework 2025
Computers and Security, Elsevier, 2025. Co-authored peer-reviewed study proposing an expanded CIS cybersecurity model for digital protection across the Brazilian judiciary. DOI: [10.1016/j.cose.2025.104584](https://doi.org/10.1016/j.cose.2025.104584)

Cybersecurity Protection in the Brazilian Judiciary: A Comparative Analysis of State Court Security Structures 2024
NAVUS, Journal of Technology and Management, v. 14, pp. 1–22. Research analyzing cybersecurity maturity and structural gaps in state courts across Brazil. DOI: [10.22279/navus.v14.2032](https://doi.org/10.22279/navus.v14.2032)

Cybersecurity Challenges: An Analysis of the Brazilian Public Administration 2026
Revista Tecnologia e Sociedade (UTFPR), v. 22, n. 69, p. 157–178. Peer-reviewed study identifying the main cybersecurity governance challenges faced by the Brazilian public administration, from the perspective of managers and specialists. DOI: [10.3895/rt.s.v22n69.20157](https://doi.org/10.3895/rt.s.v22n69.20157)

Critical Infrastructure Under Threat: Business Risks for Cybersecurity in Metropolitan Transport Systems 2025
36th ENANGRAD, Fortaleza, Brazil. Peer-reviewed conference paper on operational and governance exposures in metropolitan transport systems and the controls needed to mitigate them. doi.org/10.21227/h9q6-sv58

DATASETS AND THESES

Security Controls for Judiciary Risk Management 2025
IEEE DataPort. Open dataset of the security controls assessed in the judiciary study, published so the analysis behind the Computers and Security paper can be reproduced. DOI: [10.21227/h9q6-sv58](https://doi.org/10.21227/h9q6-sv58)

Automated Detection of Safe Landing Locations in Below-Canopy Forest Conditions 2026
MSc Thesis, Department of Computer and Systems Sciences (DSV), Stockholm University, in collaboration with Deep Forestry AB. Supervisor: Prof. Rahim Rahmani. Real-time LiDAR perception for autonomous landing under the forest canopy.

An Information Security Control Baseline to Mitigate Business Risk in the Sanitation Sector 2026
Professional Master's Dissertation, PPEE, University of Brasilia, record PPEE.DM-124/2026. Supervisor: Prof. Rafael Rabelo Nunes. A baseline of information security controls for water and sanitation utilities, derived from the business risks of the sector.

EXPERIENCE

PhD Fellow, Digital Twins for District Cooling (SWiM), Aarhus University Aug 2026 to Present, Aarhus, Denmark

- Verifying that district cooling installations are commissioned as they were designed, combining Building Information Modelling, AI and digital twins. Part of SWiM, a five-year project on sustainable water-based cooling for megacities funded by the Grundfos Foundation, supervised by Peter Gorm Larsen and Carl Peter Leslie Schultz.
- Work at the intersection of AI safety, cybersecurity, and critical-infrastructure resilience.

AI Research Engineer (MSc thesis collaboration with Stockholm University), Deep Forestry AB Dec 2025 to Jun 2026, Uppsala, Sweden

- Designed and evaluated a hybrid geometric-neural perception pipeline (RANSAC + PointNet, PointNet++, DGCNN) for real-time autonomous landing-zone detection below the forest canopy from LiDAR point clouds, reaching F1 0.926 on a held-out flight session.
- Reduced end-to-end inference latency 29× (5.8s to 200ms, 53 ms/frame) on NVIDIA Jetson Orin NX through KD-Tree indexing and voxel downsampling, evaluated under Group K-Fold session-level cross-validation on real flight data.

Cybersecurity Research Engineer, LabRisk, Cybersecurity and Risk Lab, University of Brasilia (UnB) Aug 2024 to Present, Brasilia, Brazil

- Research on cybersecurity management, risk, and privacy for the public sector (CIS controls, GDPR-aligned frameworks, judiciary cybersecurity in Brazil). Four peer-reviewed publications and one open dataset listed above.

- Supported 200+ students in IoT coursework (Python, MQTT, edge computing). Co-produced student hackathons and entrepreneurship events at Stockholm University through Drivhuset.

- Co-founded an LLM-powered multi-tenant SaaS on Azure with in-house retrieval-augmented generation, structured outputs, fine-tuned LLM, OAuth across six networks, Stripe billing, and Supabase row-level security. Building cross-provider model evaluation to compare cost and quality across OpenAI, Anthropic, and others.

- Production NLP chatbot (Python, TensorFlow) cutting customer response time 40% for 100K+ users during a Silicon Valley engagement. GDPR-compliant customer-data analytics for the instant payments system (PIX) on PySpark. CI/CD on Jenkins, GitLab, Docker, Kubernetes, OpenShift. Deployment time cut 60%.

AWARDS AND CERTIFICATIONS

Speaking and Judging: Speaker, "New Tech, Old Rules" panel, Nordic Tech Week, Stockholm (2026). Judge, Apart Research Global South AI Safety Hackathon, Technical AI Safety, AI Governance and AI Security tracks (2026).

Awards: 1st place EpiMinds Google AI Hackathon (2026), Kong AI-Assisted Coding (2025), Kolomolo AI-Assisted Coding (2025). Swedish Institute Scholarship for Global Professionals (2024). Impact Cup, Drivhuset (2025). Strategic Configuration Management, Efinance (2019).

Certifications: BlueDot AI Safety Fellowship, AGI Strategy and Technical AI Safety (2026), EA Sweden Fellowship (2026), Designing and Building AI Products (MIT, 2022), Business Intelligence Foundation (Certiprof, 2024), Data Analysis (ENAP, 2023), DevOps Master (EXIN, 2020), Lean IT Foundation (EXIN, 2019), Scrum Foundation (Certiprof, 2019), COBIT 5 Foundation (ISACA, 2015), ITIL V3 Foundation (EXIN, 2015), Lean Six Sigma White Belt (Certiprof, 2024), Women's Leadership Program (SOUL, 2024), Self-Leadership Program (Hyper Island and Swedish Institute, 2024), Collaborative Approaches to Societal Issues (Stockholm School of Entrepreneurship, 2024), TOEFL iBT 101/120 (ETS, 2024).

SKILLS

Research and ML: PyTorch, TensorFlow, Scikit-learn, Hugging Face, PointNet/++/DGCNN, RANSAC, KD-Tree, voxel downsampling, LLM fine-tuning, RAG, NLP, MLOps, model deployment, evaluation harnesses.

Programming and Platform: Python, SQL, TypeScript, JavaScript, Bash. Azure, GCP, AWS, Kubernetes, Docker, Spark, Airflow, Kafka, PostgreSQL, MongoDB.

Cybersecurity and Governance: CIS Controls v8, GDPR, Risk Management, Audit and Compliance, COBIT, ITIL, Preliminary Hazard Analysis (PHA), Bow Tie.

Languages: Portuguese (Native), English (Fluent, TOEFL 101/120), Spanish (Intermediate), Swedish (Beginner), Danish (Beginner).