

JHONY KAESEMODEL PONTES

✉ jhonykaesemodel@gmail.com • 🌐 jhonykaesemodel.com • in jhonykaesemodel

Professional Summary

Senior ML/CV engineer (10+ years across academia & industry) focused on **3D vision, reconstruction, and autonomous driving**. Shipped **production surround-view perception models using bird's-eye view (BEV) representations** under real-time constraints; published at **CVPR, ICCV, NeurIPS, CoRL**. Bridges research → product and leads cross-team initiatives.

Experience

Latitude AI | Pittsburgh, USA

Senior Software Engineer

Mar 2023 – Present

- Led development of the first surround-view perception baseline using BEV, deployed onboard under real-time latency constraints for hands-free driver assist applications
- Spearheaded cross-team tech-debt cleanup across the perception stack, simplifying infrastructure, removing legacy code, and improving developer velocity
- Acted as tech lead on cross-team initiatives, coordinating design, implementation, and delivery

Argo AI | Pittsburgh, USA

Senior Research Scientist

Sep 2019 – Mar 2023

- Created the **first Argoverse Stereo Dataset** and organized the CVPR 2022 Stereo Challenge, the first stereo benchmark for autonomous driving built on Argoverse Stereo
- Contributed to the **Argoverse 2** dataset release (NeurIPS 2021)
- Researched and deployed scene-flow and 3D perception methods; integrated into production with engineering teams

Meta Reality Labs | Redmond, USA

Research Intern | Research Software Engineer

Jun 2018 – Jul 2019

- Developed multi-view 3D reconstruction methods for AR/VR applications (Reality Labs, Audio Team)

Renault | São José dos Pinhais, Brazil

Algorithm Engineer

Mar 2012 – Jul 2015

- Designed and validated flex-fuel engine-control algorithms for production vehicles

Skills

Languages: Python (strong), C++ (familiar)

Tools: Linux, Git, Docker, Bazel, CI/CD

DL/ML: PyTorch

Deployment (familiar): NVIDIA GPUs, ONNX, TensorRT, TI TDA4, PTQ/TIDL

Education

Ph.D. in Computer Vision, Queensland University of Technology (QUT), Australia

Oct 2015 – Aug 2019

“3D shape representation and reconstruction from images”

Visiting Research Scholar, Carnegie Mellon University (CMU) — Robotics Institute, 2017

M.Sc. in Electrical Engineering, Federal University of Paraná (UFPR), Brazil

Apr 2013 – Dec 2014

“Hierarchical age estimation based on global and local features from facial images”

B.E. in Computer Engineering, Pontifical Catholic University of Paraná (PUCPR), Brazil
Exchange Program, Czech Technical University (CTU), Czech Republic, 2010 – 2011

Feb 2007 – Dec 2012

Selected Publications

- [1] Benjamin Wilson, Nicholas A. Mitchell, **Jhony K. Pontes**, James Hays, *What matters in range view 3D object detection*, CoRL, 2024
- [2] Xueqian Li, Jianqiao Zheng, Francesco Ferroni, **Jhony K. Pontes**, Simon Lucey, *Fast neural scene flow*, ICCV, 2023
- [3] Chaoyang Wang, Xueqian Li, **Jhony K. Pontes**, Simon Lucey, *Neural prior for trajectory estimation*, CVPR, 2022
- [4] Benjamin Wilson *et al.*, *Argoverse 2: Next generation datasets for self-driving perception and forecasting*, NeurIPS, 2021
- [5] Xueqian Li, **Jhony K. Pontes**, Simon Lucey, *Neural scene flow prior*, NeurIPS, 2021
- [6] **Jhony K. Pontes**, James Hays, Simon Lucey, *Scene flow from point clouds with or without learning*, 3DV, 2020

Full list available on Google Scholar

Patents

- “Fuel supply system for internal combustion engines,” Renault, granted patent FR3043722A1, 2017
- “Multi-sensor and multi-task 3D detection,” patent filed, 2024

Awards

Supervisor Top-Up Ph.D. Scholarship | QUT, 2018–2019
Science Without Borders Scholarship | Ministry of Education of Brazil, 2015–2019
Erasmus Mundus EuBrazil StartUp Scholarship | European Commission, 2010–2011