

## EDUCATION

- 2015-19 (expected) **Ph.D. in Computer Science – Universität Passau** (Germany)
- Company-based PhD in Computer Vision and Machine Learning.
  - Topic: “Training visual recognition systems on scarce data” (simulation, domain adaptation, feature learning).
  - Member of IRIXYS (International Research and Innovation Centre in Intelligent Digital Systems).
- 2014 8 months **Master's Degree in Computer Science, with Honors – Universität Passau** (Germany)
- French-German research-oriented Double Degree.
  - Multimedia, Visual Analytics & Distributed Systems.
  - Awards:
    - Excellence Award of the Faculty of Computer Science and Mathematics (University of Passau).
    - Excellence Award of the French-German University (UFA-DFH).
- 2010-14 **Master's Degree in Computer Science, with Honors – National Institute for Applied Sciences (INSA) of Lyon** (France)
- Programming techniques, Hardware, Networks & Designing methods.
  - Team, Project & Quality Management.
- 2013 1 semester **ERASMUS Exchange, Computer Science Master – Luleå Tekniska Universitet** (Sweden)
- Mobile Media, Distributed Systems, Web Services.
- 2008-10 **Undergraduate intensive course – INSA of Lyon** (France)
- Engineering sciences – Mathematics, Mechanics, Physics, Thermodynamics.
  - ASINSA – Department with emphasis on cultural and scientific connections with Asia.
- 2008 **Scientific Baccalaureate – Lycée Jeanne d'Arc** (France)
- Graduated with first-class honor & European Grad (English).

## PROFESSIONAL EXPERIENCE

- 2015-19 (current) **PhD Researcher – Siemens + Uni-Passau** (Munich, Germany)
- Conducts research toward more robust vision-based systems, in a multinational context.
  - Researches, develops, and implements deep-learning algorithms for computer vision.
  - Specializes in the training of industrial systems on scarce data (images, 3D models, etc.).
  - Explores new solutions for efficient sensor simulation and domain adaptation.
  - Contributes to large-scale industrial projects (consulting, prototyping).
  - Generates multiple patents (3 published, 6 pending), supervises students.
- pytorch, tensorflow, keras, opencv, opengl, glsl, matlab, python, tex, docker, scrum
- 2014 6 months **Master's Researcher – Siemens + Uni-Passau + INSA-Lyon** (Passau, Germany)
- Improved a stream processing architecture for Smart Grids.
  - Implemented simulation tools for performance assessment.
- openpdc, c#, hadoop, tex, physics, simulation
- 2012-13 1 year **Image Analysis Intern (gap year) – Mitsubishi Electric** (Osaka, Japan)
- Conceived solutions for multi-sensor data analytics.
  - Implemented applications for industrial robots.
- opencv, robotics-studio, matlab, c#, simulation
- 2012 4 months **Java Developer Intern – Atos Worldline** (Lyon, France)
- Implemented components for large electronic payment flows (PCI-DSS).
  - Designed tasks to analyze financial flows and detect anomalies.
- java, spring, scrum
- 2011 3 months **Image Analysis Intern – LIRIS, Imagine team** (Lyon, France)
- Researched and implemented recognition algorithms for vegetal species.
  - Mastered probabilistic comparison algorithms for image databases.
- c++, qt, opencv
- 2010-12 **Academic Tutor – Passerelle INSA Lyon** (Lyon, France)
- Prepared and taught science classes to undergraduate engineers (Math, Physics, etc.).
- math, physics, thermodynamics
- 2010 1 month **Teacher-volunteer – RCDP** (Kathmandu, Nepal)
- Prepared and taught English classes to young Buddhist monks.
- personal development
- 2009 1 month **Intern – Tajima Roofing** (Tokyo, Japan)
- Initiated to the Japanese business system and manufacturing work.
- personal development, japanese

## PUBLICATIONS

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### Conferences

2018	Planche, B., Rong, X., Wu, Z., Karanam, S., Kosch, H., Tian, Y., Hutter, A. and Ernst, J., Incremental Scene Synthesis. <i>arXiv preprint arXiv:1811.12297</i> .	neural memory, novel view synthesis, scene understanding, slam
2018	Planche, B. <sup>EQ</sup> , Zakharov, S. <sup>EQ</sup> , Wu, Z., Hutter, A., Kosch, H. and Ilic, S., Seeing Beyond Appearance-Mapping Real Images into Geometrical Domains for Unsupervised CAD-based Recognition. <i>arXiv preprint arXiv:1810.04158</i> . (EQ = equal contribution)	domain adaptation, realism gap, multi-task autoencoder, distillation
2018	Zakharov, S. <sup>EQ</sup> , Planche, B. <sup>EQ</sup> , Wu, Z., Hutter, A., Kosch, H. and Ilic, S., Keep it Unreal: Bridging the Realism Gap for 2.5 D Recognition with Geometry Priors Only. In <i>3D Vision (3DV), 2018 International Conference on (pp. 1-11)</i> . IEEE. (EQ = equal contribution)	domain adaptation, realism gap, gan,
2017	Planche, B., Wu, Z., Ma, K., Sun, S., Kluckner, S., Lehmann, O., Chen, T., Hutter, A., Zakharov, S., Kosch, H. and Ernst, J., Depthsynth: Real-time Realistic Synthetic Data Generation from CAD Models for 2.5D Recognition. In <i>3D Vision (3DV), 2017 International Conference on (pp. 1-10)</i> . IEEE.	simulation, depth sensor, 3D data, realism gap, noise study
2017	Zakharov, S., Kehl, W., Planche, B., Hutter, A. and Ilic, S., 3D object instance recognition and pose estimation using triplet loss with dynamic margin. In <i>Intelligent Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on (pp. 552-559)</i> . IEEE.	triplet network, classification, pose estimation, domain adaptation
2014	Planche, B., Malyn, B.I., Blanco, D.B. and Bermejo, M.C., The Brightest Web-Based Home Automation System. In <i>International Conference on Ubiquitous Computing and Ambient Intelligence (pp. 72-75)</i> . Springer, Cham.	web of things, home automation, inference system

### Books

2019	Planche, B. <sup>EQ</sup> , Andres, E. <sup>EQ</sup> , Hands on Computer Vision with TensorFlow 2. (372 pages) <i>Packt Publishing Ltd</i> . (EQ = equal contribution)	tensorflow2, keras, python
ND (expected)	Planche, B., Hands on Computer Vision with PyTorch. (~350 pages) <i>Packt Publishing Ltd</i> .	pytorch, python

### Patents

2019 (published)	Planche, B., Wu, Z., Synthetic depth image generation from cad data using generative adversarial neural networks for enhancement. <i>WO2019032481A1</i> .	simulation, depth sensor, 3D data, gan, domain adaption
2018 (published)	Wu, Z., Ma, K., Planche, B., Sun, S., Singh, V.K., Kluckner, S., Chen, T., Ernst, J., Real-time generation of synthetic data from structured light sensors for 3d object pose estimation. <i>WO2018080533A1</i> .	simulation, depth sensor, 3D data
2018 (published)	Wu, Z., Ma, K., Planche, B., Sun, S., Singh, V.K., Kluckner, S., Chen, T., Ernst, J., Real-time generation of synthetic data from multi-shot structured light sensors for 3d object pose estimation. <i>WO2018156126A1</i> .	simulation, depth sensor, 3D data

### Theses

2019 (expected)	Planche, B., PMU Data Processing for Smart Grids. PhD thesis. <i>Advisors: Prof. Dr. Kosch, H., Dr. Hutter, A.</i>	computer vision, machine learning, domain adaptation, simulation
2014	Planche, B., Training visual recognition systems on scarce data. Master's thesis. <i>Advisors: Prof. Dr. Kosch, H., Dr. Bäse, G.</i>	smart grid, pmu, openpdc, hadoop, physics, simulation

## LANGUAGES

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<b>French:</b>	Mother tongue
<b>English:</b>	<b>Fluent</b> – Advanced classes, years spent abroad – TOEIC : 990 out of 990
<b>German, Japanese:</b>	Good skills, both written and oral
<b>Chinese, Swedish:</b>	Basic knowledge

## ACTIVITIES

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### Reviewer:

- Computer Vision and Image Understanding
- IEEE Access Journal

### StackOverflow member (username: [aldream](#)):

- Among top 10 answerers for: *pytorch*

- Among top 5% answerers for: *keras, projection, python, pytorch, tensorflow*
- Among top 10% answerers for: *3d, conv-neural-network, deep-learning, machine-learning, neural-network, python-3.x, tensorboard*

**Developer of Web systems and demos** ([github.com/Aldream](https://github.com/Aldream)):

- **Pointillism + Morphose** – 1KB visual demo, procedural 3D generation (*awarded at JS1K 2013*).
- **Notepal + 3Dpal** – Collaborative Editing Websites.
- **Rithm + Brightnest + Cozy-Nest** – Home Automation Systems.
- **AEDI S.I.** – Website of the student association of INSA-Lyon Faculty of Computer Science.

**Amateur photographer:**

- Events (concerts, weddings), Travels, Landscapes.

*References available upon request.*