

Pascal Baillehache

Computer science engineer, specialised in applied mathematics.

French, 45 years old. Japanese permanent resident, living in Kyoto.

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Experience

- **2020-2022, Consultant for Kyocera and Rist.** Research about photogrammetry. Software development relative to procedural generation of AI training datasets. AI model integration. *Python, Open3D, GitLab, Slack, Qt, Blender, POV-Ray, Intel RealSense, Photogrammetry, Structure from Motion, Structure from Silhouette, Spinnaker camera, Linux*
- **2018-2020, Software engineer at Rist.** AI models integration in applications and embedded softwares. *Python, JavaScript, C, DICOM, Qt, GitHub, Slack, OrientalMotor actuator, CCS lighting system, Yoctopuce Modbus controller, Toshiba Teli camera, Contec DIO, Computer Vision, Image Processing, Linux*
- **2013-2020, Private research about detection of intersection of 2D and 3D geometry.** Development of an algorithm outperforming the traditional SAT algorithm. Article submitted for publication to the JCGT. *C, LaTeX*
- **2019, Freelance engineer for the archaeological survey company Archaes.** Development of an automated photography system for 3D scanning of archaeological artifacts. *C, GtK, OrientalMotor actuator, CCS lighting system, Yoctopuce Modbus controller, Toshiba Teli camera, Linux*
- **2017, Private development of an online game of Mancala.** AI opponent, 4 levels of difficulties. *C, HTML, CSS, JavaScript, PHP, MySQL, POV-Ray, MiniMax*
- **2017, Freelance programmer for the Kyoto University, department of linguistic.** Development of a web application used to process and analyse texts in old sanskrit. *C, HTML, CSS, JavaScript, PHP, MySQL*
- **2017, Private research about procedural generation of handwritten Japanese calligraphy.** Simulation of paper, ink, brush properties. Hand movement reproduced using machine learning algorithm. *C, Genetic Algorithm*
- **2013-2016, Software engineer at Ibisoku.** Development of a drawing software to produce vector graphics of archeological artifacts and process 3D data from survey fields. *Java, C, Illustrator script, Illustrator, Agisoft Metashape, Arduino microcontroller, Photogrammetry*
- **2007-2012, Software development for the Japanese hostels, shared houses and tour operator J-Hoppers.** Development of a content management system, reservation management system and accounting tools as Web applications. *HTML, CSS, PHP, JavaScript, MySQL*
- **2001-2005, Software engineer on the European Space Launcher Ariane5 program at Airbus Group NV (formerly EADS-LV).** Development of flight simulation analysis tools and internal equipments real-time simulator. *C, ADA, CVS, Unix, Unix*
- **1999, Research internship at Giref, Canadian Interdisciplinary Research Group in Finite Element.** Correction algorithm for the pseudo-Tocher coefficients applied to the finite element method. *C++, FEM, Unix*

Publications

- "Development of in-house fully residual deep convolutional neural network-based segmentation software for the male pelvic CT", in Radiation Oncology, 2021. Co-author with Rist and the Kyoto University.

Honors and awards

- IKM Test, ANSI C PROGRAMMING (C88/C99), 2022: 87%
- CodinGame tournaments, 2015-2017: global ranking of 70th/801333 programmers.

Education

ISIMA, Public Engineering School in Computer Science. Graduated in 2000, Master of Computer Science, major in applied mathematics.

Languages

French: Native

English: TOEIC 970/990

Japanese: JLPT N2