

Dominique Piché-Meunier

dominique.piche-meunier.1@ulaval.ca

+1 (581) 997-5834

EDUCATION

M.S. in Electrical Engineering 2021-2023

Université Laval, Québec

Thesis : Deep single image depth of field estimation

Supervisor : Jean-François Lalonde (Université Laval)

Co-supervisor : Yannick Hold-Geoffroy (Adobe Research)

GPA : 4.33/4.33

B.S. in Engineering Physics 2017-2021

Université Laval, Québec

GPA : 4.21/4.33

EXPERIENCE

Machine Learning Engineer - Computer Graphics and Computer Vision 2024

Adobe, 3DI Tech Transfer Team, San Francisco, CA

- Training, evaluating, and deploying machine learning models for use in Substance 3D products
- Building and contributing to shared technology platforms that accelerate machine learning research and development
- Collaborating with the research and product departments to facilitate the productization of state-of-the-art machine learning technologies

Research Intern - Computer Vision 2023

Adobe, 3DI Tech Transfer Team, San Francisco, CA

Supervisors : J Eisenman, Yannick Hold-Geoffroy

- Benchmarking machine learning methods developed by the research department
- Fine-tuning, optimizing and converting models for production
- Facilitating the integration of machine learning methods into products

Teaching Assistant - Computational Photography 2023

Université Laval, Québec

Course : GIF-7105 Computational photography

- Answering students' questions in person and on the forum
- Grading homework and exams

Research Scientist Intern - Computer Vision 2022

Adobe Research, San Jose, CA (remote)

Supervisors : Yannick Hold-Geoffroy, Jianming Zhang, Jean-François Lalonde

- Generating a dataset of images with a realistic synthetic depth of field effect
- Training a neural network to estimate camera parameters related to the depth of field

- Writing a scientific paper (ICCV)

Research Assistant - Computer Vision and Artificial Intelligence

2020-2021

Institute Intelligence and Data (IID), Université Laval, Québec

Supervisors : Jean-François Lalonde and Yannick Hold-Geoffroy

- Training a neural network to estimate camera parameters from a single image
- Evaluating the network's performance using a perceptual measure
- Writing a scientific paper (TPAMI)

Research Intern - Computer Vision and Artificial Intelligence

2020

Institute Intelligence and Data (IID), Université Laval, Québec

Supervisors : Jean-François Lalonde and Yannick Hold-Geoffroy

- Generating a dataset of images containing inserted virtual objects using Blender
- Conducting a user study to measure humans' perception to errors in camera calibration
- Participating in the redaction of a scientific paper (TPAMI)

Research Assistant - Medical Physics

2019-2020

Medical Physics Research Group (GRPM), Université Laval, Québec

Supervisor : Luc Beaulieu

- Participating in the design of a robot to assist medical staff in ultrasound guided brachytherapy
- Calibrating and testing the robot in preparation for clinical use

Research Intern - Medical Physics

2019

Medical Physics Research Group (GRPM), Université Laval, Québec

Supervisors : Luc Beaulieu and Philippe Després

- Adapting a robotic arm for dosimetry using 3D printing
- Designing and documenting a python module to control an industrial 6 DOF robotic arm
- Collecting dosimetry data with the robot that is used to train machine learning algorithms
- Analyzing and presenting the data, in a report and in a poster at the Journée scientifique des étudiants

PUBLICATIONS

Dominique Piché-Meunier, Yannick Hold-Geoffroy, Jianming Zhang, Jean-François Lalonde. *Lens Parameter Estimation for Realistic Depth of Field Synthesis*. International Conference on Computer Vision (ICCV), 2023.

François-Alexandre Tremblay, Dominique Piché-Meunier, Louis Dubois. *Multi-objective optimization for designing salary structures*. International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR), 2022.

Yannick Hold-Geoffroy, Dominique Piché-Meunier, Kalyan Sunkavalli, Jean-Charles Bazin, François Rameau, Jean-François Lalonde. *A Deep Perceptual Measure for Lens and Camera Calibration*. IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2021.

Erik Buch Jørgensen, Jacob Graversen Johansen, Joakim Overgaard, Dominique Piché-Meunier, Daline Tho, Haydee Maria Linares Rosales, Kari Tanderup, Luc Beaulieu, Gustavo Kertzscher, Sam Beddar. *A high-Z inorganic scintillator-based detector for time-resolved in vivo dosimetry during brachytherapy*. Medical Physics, 2021.

Jacob Graversen Johansen, Erik Buch Jørgensen, Joakim Overgaard, Dominique Piché-Meunier, Haydee Maria Linares Rosales, Daline Tho, Kari Tanderup, Sam Beddar, Luc Beaulieu, Gustavo Kertzsche. *Characterisation of an inorganic scintillation detector system for time resolved in vivo dosimetry*. World Congress of Brachytherapy, 2021.

SCHOLARSHIPS

• NSERC Canada Graduate Scholarships - Master's For academic excellence and research potential	2021 17500\$
• FRQNT Québec Graduate Scholarships - Master's For academic excellence and research potential	2021 35000\$
• NSERC Undergraduate Student Research Awards For academic excellence	2020 4500\$
• FRQNT Supplements of the Undergraduate Student Research Awards For academic excellence	2020 1500\$
• NSERC Undergraduate Student Research Awards For academic excellence	2019 4500\$
• FRQNT Supplements of the Undergraduate Student Research Awards For academic excellence	2019 2000\$
• Hydro-Québec Entrance Scholarship For academic excellence	2017 3000\$
• Franco Rasetti Entrance Scholarship For academic excellence	2017 1500\$
• Desjardins Foundation Scholarship For academic excellence and community engagement	2016 1000\$

LANGUAGES

Languages : french (native), english (fluent)