
XIONG JUNLIN

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www.linkedin.com/in/xiongjunlin



Summary

- *Skilled in Python-based machine learning and computer vision, with proficiency in PyTorch and OpenCV.*
- *Extensive experience in intelligent control for robotics, specializing in multi-sensor fusion, path planning, detection, and simulation.*
- *Solid foundation in quantum mechanics and quantum computing; independently designed and simulated quantum circuits using Qiskit.*
- *Certified PMP project management professional with substantial experience managing ICT projects.*

Internship

- 2025.03-2025.08 The Institute of Photonic Sciences (ICFO) Spain
A research internship at ICFO, where I will complete my master's thesis by optimizing time domain sampling in FTIR spectroscopy and developing machine learning models to predict gas concentrations from frequency-domain data.

Education

- 2023.09-2025.06 EIT Digital- Aalto University Finland
M.Sc. Autonomous Systems - Robotics and Artificial Intelligence
- 2023.09-2025.06 EIT Digital- BME University Hungary
M.Sc. Autonomous Systems
- 2011.09-2015.07 Southwest Jiaotong University China
BEng. Measurement and Control Technology and Instruments

GPA of Master

4.6/5.0

Professional Experience

2020.07 — 2023.08

China mobile (Shanghai) Industrial Research Institute
New Technology Engineer

- Research on Patent Invention in the Field of Aeronautical Based on 5G SatCom.
- Research on 5G Technology Applications for Cockpit and Cabin IoT Systems.

Certification

Software Product
Project Management

PDMA - New Product Development Professional Certification
PMI Project Management Professional (PMI-PMP)®

Academic Paper

Real-time CAT prediction via cabin sensor and ground system

Primary Author: Xiong Junlin

<https://github.com/Xiong-Junlin/Real-time-CAT-prediction-via-cabin-sensor-and-ground-system>

Developed a Clear Air Turbulence (CAT) early warning system using portable onboard devices to collect real-time accelerometer data. Leveraged machine learning for ground-based analysis to predict CAT, improving flight safety and comfort without extra hardware.

Research projects

Grover Algorithm with Qiskit on 2-Qubit System

2024.12 - 2025.01

<https://github.com/Xiong-Junlin/Grover-Algorithm-Implementation>

Implemented Grover's algorithm on a 2-qubit system using **Qiskit** to efficiently search for the target state $|11\rangle$. **Simulated the circuit and visualized results**, achieving 100% accuracy in identifying the target state, demonstrating the algorithm's quadratic speedup.

Sanding Robot Optimization Using DDPG Algorithm

2024.9 - 2024.12

<https://github.com/Xiong-Junlin/Reinforcement-Learning-Project---Sanding-Task>

Implemented a reinforcement learning solution **using the DDPG algorithm in PyTorch to optimize the behavior of a sanding robot**. Achieved improved performance in navigating complex environments while maximizing rewards.

Sensor Fusion of GPS and IMU Using Extended Kalman Filter

2024.9 - 2024.11

<https://github.com/Xiong-Junlin/Sensor-Fusion>

Utilized Python(Numpy) and the KITTI dataset to implement sensor fusion of GPS and IMU data through an Extended Kalman Filter. Accurately **simulated the vehicle's trajectory**, achieving improved localization and path estimation.

Path Planning Algorithms for Mobile Robots Using RRT

2024.5 - 2024.8

<https://github.com/Xiong-Junlin/Path-Planning-Using-RRT-Algorithm>

Developed collision-free navigation paths for autonomous robots in simulated environments using Webots. Implemented the RRT algorithm in Python to **find optimal paths for obstacle avoidance**.

Modeling, Simulation, and Control of Quadcopters

2024.9 - 2024.10

<https://github.com/Xiong-Junlin/Modelling-Simulation-and-Control-of-a-Quadcopter>

Studied advanced research papers on quadcopter control and utilized MATLAB to simulate laboratory environments, focusing on dynamic modeling, control algorithms, and system behavior analysis.

EIT Digital Master's Programme in Autonomous Systems (AUS)

Letter of Acceptance

for

Junlin Xiong

Date of birth: 27 July 1992

EIT Digital student ID: 232352

The EIT Digital Master School is pleased to inform you that you have been accepted as a degree student to the EIT Digital Master's Programme in **Autonomous Systems (AUS)** starting autumn 2023. You have been accepted to the programme with the following study track:

Entry University: Budapest University of Technology and Economics

Exit University: Aalto University—Robotics and Artificial Intelligence

Admission to the programme is under the condition that you present the final original Transcript of Records and Degree Certificate/Diploma upon enrolment at your entry and exit university. For specific matters regarding this condition, please contact your entry university. Contact details can be found [here](#).



Prof. Salvatore Moccia
Head of Master School
EIT Digital Master School

The EIT Digital Master School is a cooperation between

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Connecting Innovators Worldwide

The Product Development and Management Association
proudly grants

Xiong JunLin

the designation of

New Product Development Professional

for meeting the experience and knowledge requirements set forth by the PDMA Certification Committee.
Designees are subject to re-certification at three-year intervals.

Awarded on May 25, 2019

Chair



C49768

Vice President of Certification



THIS IS TO CERTIFY THAT

Junlin Xiong

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND PERFORMANCE
IN ACHIEVING AN ORGANIZATIONAL OBJECTIVE THROUGH DEFINING AND OVERSEEING PROJECTS AND
RESOURCES AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional (PMP)®

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE

Jennifer Tharp | Chair, Board of Directors



Pierre Le Manh | President & CEO

PMP® Number: 1965823

PMP® Original Grant Date: 10 September 2016

PMP® Expiration Date: 10 September 2025

