# Alex Baowend Soom M. A. Zongo

Tsinghua University, Beijing, China, 10084

+86 150 2212 4758 \$\displayaleq\alpha\alph

## **EDUCATION**

PhD in Mechanical and Aerospace Engineering

August 2024 - Current

School of Engineering and Applied Sciences,

George Washington University, Washington DC, US.

Master in Control Sciences and Engineering

September 2021 - May 2024

Department of Automation,

Tsinghua University, Beijing, China, GPA: 3.81/4.0

Machine Learning Summer School June 2022 - August 2022

Oxford University, London, United Kingdom

Bachelor of Engineering in Aircraft Design September 2018 - June 2021

Department of Aeronautics,

Beijing University of Aeronautics and Astronautics, GPA: 3.78/4.0

First Year of Engineering in Aeronautics and Astronautics September 2017 - June 2018

Department of Aeronautics and Astronautics,

National Cheng Kung University, Tainan, Taiwan, GPA: 4.05/4.3

#### SKILLS AND INTERESTS

Interests Artificial Intelligence, Flight Control, Reinforcement Learning, Explainable AI,

Optimization, Mechanics, Robotics, Modeling and Simulation

Software And Frameworks MATLAB, SIMULINK, Arduino, ROS/ROS2 (Robotic Operation System),

Python, C/C++, SQL/NoSQL, JavaScript, Solidity

PyTorch, Scikit-learn, OpenCV

Soft Skills Self-learning, Initiative, Team Work,

technical writing, presentation and communication

Languages French, English, Chinese

**PROJECTS** 

## Courses Projects

September 2021 - September 2023

Tsinghua University

- · Music Sound Source Separation via Deep Learning
- · Menon Cells Hierarchical Classification with Machine Learning (ML)
- · Application of Reinforcement Learning Algorithms on OpenAI gym LunarLander v2, for the count of Performance Optimization and Evaluation of Complex System course.

## Aircraft Modeling, Control and Simulation

March 2020

Beijing University of Aeronautics and Astronautics

- · A personal project to better understand flight mechanics and control. I used the RCAM model (FM\_AG-08\_TP088-9) as a basis to build a simulation in MATLAB/SIMULINK.
- · FlightGear was incorporated as an interface for graphical illustration.

## General Aviation Aircraft Design

Sept 2020 - May 2021

Beijing University of Aeronautics and Astronautics

- · As part of my graduation project, I designed a Lightweight Sport Airplane following some requirements like maximum airspeed, endurance, weight, range and flight envelope.
- · Another project consisted in the preliminary of a helicopter also based on provided requirements

**Alex B. Zongo**, LiQing. Towards Intelligent Fault Tolerant Attitude Flight Control Of A Fixed-Wing Aircraft, International Conference in Guidance, Navigation and Control (ICGNC), Changsha, China

August 2024

## INTERNSHIP/TRAININGS

## Robotics Software Engineer Intern,

Popular Robotics, Beijing, China

June-November 2022

I worked on a biped simulation in Gazebo with ROSROS2

A course on gait motion basics was drafted for an online course.

## POSITION OF RESPONSIBILITY

Research Assistant September 2021 - Present

Tsinghua University Navigation and Control Lab

- · Participated in various lab projects including Trajectory Based Optimization Performance Graphical Simulation
- · Research on applying AI to Flight Control: Fault-tolerant flight control
- · Resulting in a publication to the International Conference on Guidance Navigation and Control (ICGNC 2024).
- · Reviewer for ICGNC 2024.

Secretary General May 2022 - May 2024

Tsinghua University African Student Association

- $\cdot$  A student association established by students with the aim of cultural exchanges, learning and leadership skill development
  - among students and peers
- · Lead in cultural activities planning and organization
- · Team leader and active member working to promote leadership, and engagement in community service and problem solving.

R&D Engineer September 2022 - May 2023

Tsinghua University Artificial Intelligence International Student Association club

- · A graduate level AI club established by students with the aim of learning and professional skill development among students and peers
- · Active member working to develop AI solutions for societal problems

## EXTRA-CIRRUCULAR.

- Seminar on Future of AI, The 6th Academic Forum on Artificial Intelligence of Beijing Universities,
  Beijing, China
  April 2024
- Church Musician at North Cathedral of Beijing

September 2023 - July 2024

• Campus Service Volunteer at Tsinghua University

September 2021 - May 2024

• Piano Player, performed on Global Village event at Tsinghua University, Beijing, China

May 2023

• Piano Player in **Starry Night** event, at Tsinghua University, Beijing, China

May 2023

## **ACHIEVEMENTS**

Chinese Government Scholarship Recipient
Outstanding Academic Achievement Awardee
Taiwan Ministry of Foreign Affairs Scholarship Recipient

2018-2024

2019, 2020

2016-2018

## DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.