

Ahmed Yesuf Nurye

SYSTEM ENGINEER @ NORTHVOLT · ROBOTICS SOFTWARE ENGINEER

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Summary

I'm currently pursuing my M.Sc. in Robotics and Automatic Control at Warsaw University of Technology. I'm a fast learner, possessing self-taught skills in Python, C++, MATLAB/Simulink, ROS, software design and testing, along with proficiency in Git and Linux OS. I'm deeply passionate about the development of intelligent systems, particularly in the fields of human-robot interaction and autonomous mobile robots perception, localization, mapping, and planning.

Education

Warsaw University of Technology

M.Sc. IN ROBOTICS AND AUTOMATIC CONTROL

Warsaw, Poland

Oct. 2022 - Oct. 2024

- Advisor: prof. dr hab.inż. Elżbieta Jarzębowska.
- Thesis: Mobile Robot Navigation in a Dynamic Environment.

Addis Ababa Science and Technology University (AASTU)

B.Sc. IN ELECTRICAL ENGINEERING

Addis Ababa, Ethiopia

Oct. 2016 - Sep. 2021

- B.Sc. Project: Smart Irrigation System Powered by Dual Axis Solar Tracker.

Skills

Programming and Simulation

Python, C++, MATLAB, Simulink, ROS, Gazebo, CoppeliaSim

Robotics & Learning

Motion Planning, SLAM, Kinematic & Dynamic analysis, Multi-body systems, Control Theory, Machine Learning

Miscellaneous

Linux, Shell (Bash/sh), Git, \LaTeX , Microsoft Office

Soft Skills

Excellent Communication, Time Management, Teamwork, Problem-solving, Presentation

Languages

English (CEFR - Level C1), Amharic (Native)

Industry

Northvolt

SYSTEM ENGINEER | MODEL-BASED DESIGN VERIFICATION AND VALIDATION ENGINEER

Gdańsk, Poland

Apr. 2024 - Present

- Maintenance of model, software and hardware in the loop software.
- Develop test cases & perform unit testing for battery management system functions.
- Perform model-based verification and validation for battery management system functions.

New Era Research and Development Center

ROBOTICS ENGINEER INTERN

Addis Ababa, Ethiopia

Apr. 2021 - Jun. 2021

- Implemented various algorithms for mobile robot path planning (e.g., Bug1&2, Wavefront).

Teaching

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

Fall 2021

EEEG3153

Electrical Measurement & Instrumentation, Teaching assistant

Summer 2022

EEEG4155

Introduction to Control System, Teaching and lab assistant

Projects

Development of Kinematic Analysis Tool Using Absolute Coordinates

WARSAW UNIVERSITY OF TECHNOLOGY | CO-ADVISORS: PROF. JANUSZ FRĄCZEK & D.Sc. MAREK WOJTYRA

Warsaw, Poland

Oct. 2024 - Jan. 2024

- Developed a kinematic analysis tool using absolute coordinates for a general case planar multi-body system in MATLAB environment.
- Tested the implementation against results obtained from MSC Adams simulation software.

Six Degree of Freedom Serial Manipulator

WARSAW UNIVERSITY OF TECHNOLOGY | ADVISOR: DR INŻ. PAWEŁ MACIĄG

Warsaw, Poland

Feb. 2022 - Jun. 2022

- Derived the analytical solution of the inverse kinematics of the robot arm.
- Performed both task space (using interpolation) and joint space (using *LSPB* and quintic polynomial) trajectory planning.
- Tested implementation on the actual hardware for a pick and place task.

Controller Design Specification for a 6-DOF Serial Manipulator with a Two-State Gripper Endowed with Visual Perception

WARSAW UNIVERSITY OF TECHNOLOGY | ADVISOR: PROF. DR HAB. INŻ. CEZARY ZIELIŃSKI

Warsaw, Poland

Feb. 2022 - Jun. 2022

- Determined the internal structure of the agent and appropriate sampling rates of the agents' subsystems.
- Specified the general behavior of the virtual effectors and receptors.
- Defined the agents transition and terminal conditions governing its behaviour.
- Determined the structure of the *FSM* of the control subsystem invoking the defined behaviours.

Achievements & Volunteer Work

2022	Banach Scholarship , Provided by the Polish National Agency for Academic Exchange (NAWA)	Warsaw, Poland
2021	Gold medal , Graduated with the highest honer (rank: 1/ 450)	Addis Ababa, Ethiopia
2018 - 2019	Charity Affairs Committee , Served as core member of AASTU students union charity affairs committee	Addis Ababa, Ethiopia