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
Warsaw, Poland

M.SC. IN ROBOTICS AND AUTOMATIC CONTROL — *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)
Addis Ababa, Ethiopia

B.SC. IN ELECTRICAL ENGINEERING — *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)

Experience

Northvolt
Gdańsk, Poland

SYSTEM ENGINEER — *Apr. 2024 - Present*

- Performed model-based verification and validation for battery management system functions.

Addis Ababa Science and Technology University
Addis Ababa, Ethiopia

TEACHING ASSISTANT — *Oct. 2021 - Jul. 2022*

- Guided students in troubleshooting and conducted demonstrations.
- Managed lab resources and graded lab reports.

New Era Research and Development Center
Addis Ababa, Ethiopia

ROBOTICS ENGINEER INTERN — *Apr. 2021 - Jun. 2021*

- Implemented path planning algorithms for mobile robots (Bug1, Bug2 and Wavefront algorithms).

Projects

Development of Kinematic Analysis Tool Using Absolute Coordinates - Warsaw University of Technology
Warsaw, Poland

CO-ADVISORS: PROF. JANUSZ FRĄCZEK & D.SC. MAREK WOJTYRA — *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.

Kinematics Analysis and Trajectory Planning of a 6 DoF Serial Manipulator
Warsaw, Poland

ADVISOR: DR INŻ. PAWEŁ MACIĄG — *Feb. 2022 - Jun. 2022*

- Derived the analytical solution of the inverse kinematics of the robot arm.
- Performed both task space and joint space trajectory planning for a simple pick and place task.
- Tested the performance of the implementation on the actual hardware.

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

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 data structures (buffers) within the control subsystem of the agent and the transition functions as well as terminal conditions governing the behaviours of the agent.
- Determined the structure of the *FSM* of the control subsystem invoking the defined behaviours.

Honors & Awards

2022	**Banach Scholarship,** Provided by the Polish National Agency for Academic Exchange (NAWA)	*Warsaw, Poland*
2021	**Gold medal,** For outstanding academic achievement during my undergraduate study (rank: 1/450)	*Addis Ababa, Ethiopia*