

Jakob Humlebæk Lahn

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ABOUT ME

I am 31 years old and live in Spørring, together with my wife Maria and our son Kristian (4 years old). I am a student at Aarhus University, where I am in the last semester of my mechanical engineering degree. I consider myself good at solving technical problems, which is a skill I have developed and used extensively in previous work for Esvagt on ships in the North Sea. I enjoy delving into a topic that piques my interest and finding creative solutions to the problems I encounter.

HOBBIES AND INTERESTS

My free time is spent on recreational scuba diving in Denmark. In addition, I am an active member of Open Space Aarhus, which is a maker/hacker space in Aarhus. Here, I work on collaborative projects with other members or personal projects. Additionally, I have set up my own small workshop in our shed for various projects and tasks.

EDUCATION

Aarhus University - Bachelor of Mechanical Engineering Ongoing
Topics covered so far include: Material science, Design and construction, CAD design, FEM analysis, Strength of materials, Coding, mechatronics, CFD, Entrepreneurship, and ship technology, etc.

Martec - Certified Deckhand / Competence in Maritime 08/2017 - 01/2018
Concluding course for the deckhand certification, including welding and fabrication courses, crane operation, hydraulics, electrical engineering, and sea safety, etc.

Marstal Navigation School and VUC - High School - Maritime 08/2009 - 07/2012 A
3-year program combining deckhand certification with a high school diploma.

EXPERIENCE

Aarhus University - Navitas pilot in X-lab 02/2022 - Ongoing
Student assistant in X-lab at Aarhus University with the following responsibilities:

- Instruction for students and users of X-lab on machine operation.
- Maintenance of machines (3D printer, laser cutter, CNC mill).
- Cleanup and organization in X-lab.

Esvagt - abla seaman / Boatswain 01/2018 - 07/2020
Onboard Esvagt Faraday with the following responsibilities:

- PIC (person in charge) on the Ampelmann W2W system.
- Captain of the ship's large workboat (STB-12).
- Crane and boat operations.
- Maintenance and metalworking.
- Training of new personnel in Ampelmann and STB-12 operations.

Esvagt - Ordinary Seaman 11/2014 - 08/2017
Onboard Esvagt Faraday with the following responsibilities:

- Ampelman operator.
- Crane and boat operations.
- Maintenance and cleaning.

PERSONAL PROJECTS

Ball Balancing Robot 2023-2024
Design, construction, and programming of a robot to balance a ball and move it in patterns. Used as an art installation at Aarhus Maker Faire 2024 at Dokk1. Challenges included:

- Design and fabrication of mechanical components.
- Programming of kinematics and PID control.

Underwater Scooter Ongoing
Design and construction of an underwater scooter for hobby use, based on waterjet technology. The project is ongoing, and challenges include:

- Design and fabrication of the device.
- Sizing of waterjet, motor, motor controller, and battery system.
- Development of an intuitive control system usable underwater.

3D Touch Probe for CNC 2020
A homemade CNC touch probe for locating the zero point on a CNC mill.

P3steel 3D Printer 2016 - Ongoing
My 3D printer, continuously upgraded with new features and upgrades, where I have designed several of them myself, including:

- Adapter for Multi-material upgrade.
- New X-axis.
- Conversion to RepRap firmware on Duet2 WiFi controller.