

Do you want to collaborate with the world market leader in collaborative robots?

Then look through our project proposal for 2024. If you have an idea to a project not mentioned on this list, or you're searching for something else than thesis project feel free to reach out to: outreach@universal-robots.com.

No matter which project you end up doing with Universal Robot, you will join a World Market Leader in collaborative robots with a mission of empowering people. Through our pioneering work in collaborative robots, we have helped many businesses innovate and grow, providing them with the tools they need to transform their ideas into reality. We have raise the bar for productivity while freeing up operators from repetitive manual work.

Our R&D Department in Odense consists of over 200 smart, creative people finding innovative solutions to some of the most important manufacturing issues facing businesses today. By doing a project with Universal Robots you will get acquainted to some of the most skillful and experienced people in the field, and gain hands on experience, working with our robots.

Project List

Human – Robot Interaction Safety at Universal Robots, R&D	2
Field Robot Kinematic Calibration at Universal Robots, R&D	3
Human-robot collaboration (HRC) at Universal Robots, R&D.....	4
Modularization of Robot Programs at Universal Robots, R&D.....	5
Primitive Reusable Skills at Universal Robots, R&D.....	6
Robot Arm Calibration at Universal Robots, R&D	7

~~Human-Robot Interaction Safety at Universal Robots, R&D~~
Assigned

We are looking for talented students for thesis-collaborations (starting May 2024). So, if you have capabilities and interests within the field of Automation, Robotics, Computer Science, or similar, we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

We are exploring and experimenting with the next generation of Cobot Safety features. For this, we need creative collaborators willing to learn from the teams in charge of Innovation, Simulation, and Safety. During your stay at UR, you will be expected to create simulation prototypes of safety features, and to develop experimental plug-ins for the next generation of our Cobot Software

Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, please contact Dr. Edwin Ávila, ejam@universal-robots.com, tel: +4528956970.

~~Field Robot Kinematic Calibration at Universal Robots, R&D~~

Assigned

We are looking for talented students for thesis-collaborations (starting September 2024). So, if you have capabilities and interests within the field of Field Robot Kinematic Calibration, we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

What could be the most accessible way to kinematics calibrate a robot after a repair?

- How could a re-calibration be done after the robot has been taken apart for repair?
- How simple, but still robust could this be?
- Could it be done with tools that could be recreated out in the field?

Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, contact Talent Program Coordinator, Sofia Thøgersen, outreach@universal-robots.com, +45 61892984

~~Human robot collaboration (HRC) at Universal Robots, R&D~~

Assigned

We are looking for talented students for thesis-collaborations (starting September 2024). So, if you have capabilities and interests within the field of HRC, human-machine interface, learning from demonstrations, etc., we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

We are searching for a student passionate about enhancing the capabilities of automation by leveraging human intelligence. We will provide you a framework to build in your custom robotic skills for e.g., assembly of gearboxes. Choices regarding technology is very open so we welcome any contributions within learning algorithms and representations. You will through your state-of-the-art research make a decision in collaboration with your UR supervisor on e.g., using dynamic movement primitives (DMPs).

Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, please contact Associate Product Manager, Nicolai Anton Lynnerup, naly@universal-robots.com, +45 26774819

Modularization of Robot Programs at Universal Robots, R&D

We are looking for talented students for thesis-collaborations (starting September 2024). So, if you have capabilities and interests within the field of Software development, we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

Do you love software development? And are you passionate about reusable and shareable code? Then you should do your thesis with UR. We are looking for a software student that would like to work on our next generation PolyScope software and investigate how we could offer an in-app way of easing the programming task of our robots through searching and reusing pieces of robot programs from others. Our new tech stack includes a modular Docker-based backend and our front-end is built in the latest Angular framework.

Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, please contact Associate Product Manager, Nicolai Anton Lynnerup, naly@universal-robots.com, +45 26774819

Primitive Reusable Skills at Universal Robots, R&D

We are looking for talented students for thesis-collaborations (starting September 2024). So, if you have capabilities and interests within the field of Primitive Reusable Skills, we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

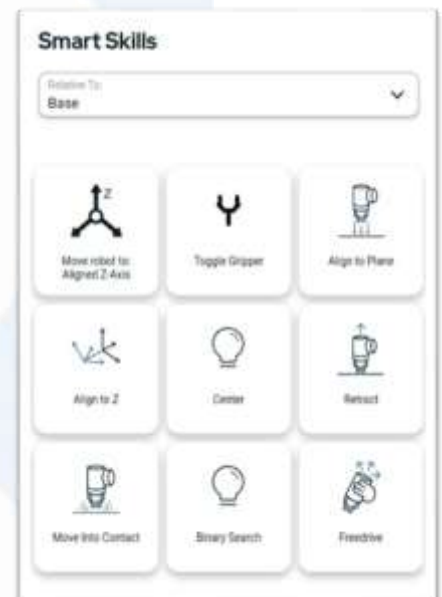
The up-coming new UI for UR, called PolyScope X, will have a Program By:

Essentially: The user demonstrates the task using the skills, and the robot can execute it afterwards!

This framework utilizes some pre-made skills to e.g., find a align to a surface, close a gripper, find a hole etc. which both help while demonstrating but also afterwards for execution.

And much more skills are needed!

- Select a use-case like machine feeding, gluing, assembly tasks etc. and identify what skills is needed.
- Make the skills needed and show that they can be reused for a similar but different use-cases.



Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, please contact Talent Program Coordinator, Sofia Thøgersen, outreach@universal-robots.com, +45 61892984

Robot Arm Calibration at Universal Robots, R&D

We are looking for talented students for thesis-collaborations (starting September 2024). So, if you have capabilities and interests within the field of Robot Arm Calibration, we would like to get in touch with you. You're likely to gain a learning experience for life!

About the thesis collaboration:

UR has had the rigid part of the kinematics calibrated since 2014. But what about the deformable part and the dynamics?

- Propose a model for representation and strategy for identifying properties that can improve UR's robot arms' performance.
- Select one property, argument why this is relevant and make a proposal of how this could be done and evaluate the result.

Suggestion, but not limited to, properties could be:

- Joint and/or link deformation which happen due to payload and inertia
- Dynamic properties like friction and stiction

Do you want to team up with Universal Robots? Send your application now, by submitting your individual motivation accompanied by your CV, transcript of grades and other relevant attachments.

If you have any questions regarding the collaboration or which to apply, please contact Talent Program Coordinator, Sofia Thøgersen, outreach@universal-robots.com, +45 61892984