RSS 2025 Workshop Proposal

Title: Robotics without Borders

Organizers:
Maaike van der Horst: Techno-Psychoanalyst
(maaike.vanderhorst@utwente.nl, affl: University of Twente),
dr. Mark Paterson: Social Scientist (paterson@pitt.edu, affl: University of Pittsburgh),
dr. Alessandro Ianniello: Design Researcher (A.Ianniello@tudelft.nl, affl: TU Delft),
dr. Stefan Buijsman: Philosopher (S.N.R.Buijsman@tudelft.nl, affl: TU Delft),
Charu Agrawal: Engineer (alias Aria Kara, skartyif@protonmail.com, affl: Hanerol)

Workshop
Time: half-day
URL: https://aria-kara.github.io/robotics-without-border
Time conflicts: both 21st and 25th work equally fine.

Description

Engineers are often focused on the **"how"**—how to solve a problem. Philosophy, on the other hand, asks **"why."** Social sciences, humanities, design, and psychology add another crucial question: **"for whom?"** Who benefits from our creations? What impact do they have on society?

While philosophy is theoretical and engineering is practice-oriented, both ultimately serve society and the planet. However, the academic and industrial languages of these fields differ, making interdisciplinary collaboration challenging.

Robotics is a mathematically rich and visionary field, yet only certain aspects of research directly address humanity, society, or planetary concerns. One major barrier is the nature of ethics itself—there are no absolute **"right"** or **"wrong"** answers, only a spectrum of perspectives. This ambiguity often discourages engineers from engaging with ethical issues, as they seek clear, actionable solutions.

But what if ethical concerns could be translated into **simple, clear language** and framed as executable engineering problem statements? By bridging philosophy, social science, design, humanities, and psychology with engineering, we can create robots that are not only technologically advanced but also socially and ethically responsible.

Current discussions around robotics and society often focus on unemployment, safety, privacy, and human-robot interaction. While these are critical, this workshop highlights **additional pressing issues** that demand attention at the engineering design level.

Developed in a **collaborative, open, and constructive spirit**, this workshop is **not** a theoretical lecture on ethics, a philosophy class, or a platform for blame. Instead, it is a **problem-solving experience** aimed at helping engineers integrate ethical considerations into real-world robotics design.

Plans to Encourage Participation

We aim to captivate our attendees through **storytelling**, transforming complex technical, philosophical, social science, and design concepts into accessible, engaging narratives without losing their depth. By fostering a critical but **solution-oriented mindset**, we empower engineers to think creatively and contribute innovative ideas, recognizing their intrinsic drive for problem-solving.

Additionally, we incorporate **meta-learning techniques**, encouraging participants to reflect on their learning process, adapt their thinking, and bridge the gap between ethical considerations and practical engineering solutions.

More Information in the Physical Resources section.

Discussion Topics

More than 50% of the workshop will be dedicated to discussion and collaborative problem-solving. Our goal is to generate practical solutions to the societal, ethical, and design challenges present in current robotics. Through these discussions, we will explore concrete engineering actions that can address and resolve these issues effectively.

Invited Speakers and Panelists

a) Maaike van der Horst: Techno-Psychoanalyst; psychoanalytic perspective on humans with use of robots; **Recorded video**
b) dr. Mark Paterson: Social Scientist; expertise in accessible robotics design, exoskeleton etc; **Virtual Presence**
c) dr. Alessandro Ianniello: Design Researcher; Designing non-anthropocentric robots and enhancing relationship between robot and humans in work environments; **in-person**
d) dr. Stefan Buijsman: Philosopher; teaches digital ethics to seasoned engineers in industry; **recorded video**
e) Charu Agrawal: Engineer (alias Aria Kara); worked on space robotics, satellites, embedded system engineer enthusiastic to bridge humane studies to engineering; ; **in person**

Our pre-read (https://aria-kara.github.io/robotics-without-border/a-z.html) includes **16 thoughtfully curated examples**, each highlighting a distinct ethical concern and proposing actionable engineering solutions. Depending on the RSS organizers'

preference, we will select three examples to explore in depth during the workshop, ensuring alignment with this year's workshop theme and the broader goals of the event.

The remaining 13 examples will be available for attendees to explore further. We will also reference these examples to address key participant questions, such as:
Why should I care? So what? What now? What can I do?

By allowing **organizers to choose the three focal examples**, we ensure that the workshop complements the overall narrative of the event while fostering meaningful discussions on ethical and societal challenges in robotics.

Tentative Schedule
9:00 am -discuss the motivation and intention; activation and crowd-work up.
9:30-9:40 am: introduce the framework
9:40-9:50 am: give one example to set in the feel.
10:00 am - 10:30 am- coffee break
10:30 - 11:45 am - two examples, with discussion rounds, groups of 2/4
11:45 - 12:00 am - standing up walking around, break
12:00- 12:30 pm - conclusions; takeaway…
12:30 pm - Lunch

We are highly flexible with the schedule and welcome organizers to share their ideas and expectations. The workshop can be condensed or expanded based on the event's needs. If expanded, we can cover more than three examples, allowing for a deeper exploration of ethical challenges in robotics.

Our examples (https://aria-kara.github.io/robotics-without-border/a-z.html) span key themes such as autonomous vehicles, exoskeletons, and rescue robots. If other workshops address similar topics, we can integrate a 10-minute segment at the end of their session to introduce critical societal and ethical questions, fostering deeper reflection and discussion within their framework.

Physical Resources

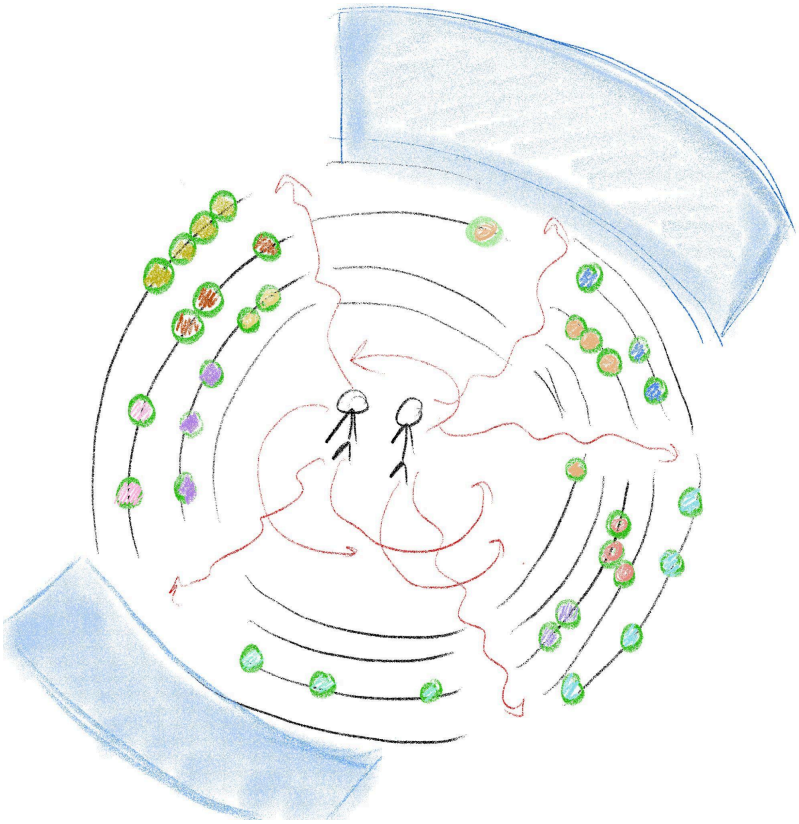
Our workshop is designed to be highly interactive and engaging, with the focus on discussion and participation rather than slides. Instead of being the focal point, slides will display only a single phrase, image, or question—ensuring that newcomers or momentarily disengaged participants can easily reconnect with the conversation.

Rather than a traditional teacher-to-student format, we aim to create an inclusive, peer-driven space, similar to an AA (Alcoholics Anonymous) meeting, where all voices

are equal. Our role is to facilitate, guide the tone, and encourage open discussion, rather than dictate information.

We will be at the center of the room, walking around to maintain energy and engagement. We expect participants' eyes, ears, and minds to stay actively involved, with the spoken discussion as the true focal point.

To keep attention on the conversation, we will provide printed takeaways or flashcards, depending on the number of participants, reducing distractions from laptops. However, all materials will be accessible via a QR code displayed at the entrance and on every slide, directing attendees to the workshop website.



This setup ensures an immersive experience where ideas flow freely, voices are heard, and ethical discussions in robotics take center stage.

Special Requirements- Not really

In-person Experience
Two of us: Alessandro and Charu will be at the venue.
Mark Paterson will join us online.
We will have recorded videos of the other organisers and contributors.

Online Participation
In our experience, online participation during the workshop itself is not highly effective. Instead, we focus on pre-workshop engagement to ensure meaningful contributions.

Before the workshop, we will release a one-hour recorded video featuring insights from various collaborators and contributors, providing diverse perspectives on the workshop's theme. Additionally, a pre-read document will be made available several days in advance to help participants familiarize themselves with the overarching idea.

The video and pre-red document will provide educational material to be covered in-peron. Further, a Google Document worksheet will be provided to the online attendees as:

1. A self-assessment tool to help participants gauge their understanding.
2. A brainstorming platform with thought-provoking questions aimed at generating new engineering solutions.

All new ideas and methodologies introduced by participants will be compiled and published within a month after the conference as part of an open-access handbook, licensed under Creative Commons for public and unrestricted use. This ensures that the knowledge generated continues to benefit the wider robotics and ethics community.

Acknowledgment to Attend the RSS Workshop Organizers Meeting
Ofcourse, depending on the dates at least two of us will attend the meeting.

Please note:
To ensure its effectiveness, we will conduct a practice workshop in May 2024 at RoboHouse, TU Delft, Netherlands, with a diverse audience to test and refine the format. This demo session will provide valuable insights to further improve engagement, delivery, and content.

Additionally, our pre-read document is undergoing final revisions to correct typos and polish the content, ensuring it is fully refined and ready before the workshop.