

Leoben, Nov 12th 2024

MSc-Thesis “Deployment of robotic systems in mining environments”

Background

Autonomous inspection units aka robots and drones (UAVs) are becoming ever more widespread in all engineering fields. Mining has traditionally been at the forefront of deploying these exciting technologies, due to the unique opportunities it provides. Additionally, mining imposes one of the harshest environments for deploying these technologies (keywords: dust, moisture, vibrations, confined spaces).

Thesis description and aim

The Chair of Mining Engineering at MUL owns a robot systems “animal D” from anybotics, including the companies “inspection payload” comprising advanced IR and depth cameras, LIDAR sensors, and microphones. The goal of this thesis is to improve the operability of the device in mining related scenarios (e.g. walking at uneven and slippery surfaces, navigation in confined spaces, inspection of industrial areas like processing plants). This starts from walking modes and parcours in a laboratory environment to final deployment in an old mining addit where the capacities can be proven.

What we are looking for / your background / requirements

We are looking for someone with a background in Computer Science, IT and/or Robotic systems, with a desire to deploy his/her expertise for new problems in the space of mining. Especially profound knowledge in Linux (Ubuntu) based Systems is preferred.

Timing

The thesis shall start at the earliest possible date and ideally be finalize be the end of the summer semester 2025.

Further contact and inquiries:

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