Metadata form of Silva Fennica

This form is designed for writing the elements of metadata, which are used in the description of research materials such as data and codes. The form is based on the work done in the Work Group "Description of research materials" under the Finnish Open Science Coordination.

Item	Description	Responsible
Name of the data / code	Global coverage path planner in 2.5 dimensions for nonholonomic vehicles	Author
Author & ORCID	Erik Arvidsson, 1* 0000-0001-7679-0203 Magnus Karlberg, 1 0000-0002-2342-1647 Håkan Lideskog, 1 0000-0002-9862-828X Torbjörn Lindbäck, 1 0000-0002-6209-9355	Author
Authors' affiliation(s)	1 Department of Engineering Sciences and Mathematics, Luleå University of Technology, Luleå, Sweden	Author
Owner of the material	Authors,	Author
Publisher	Taylor & Francis Group, International Journal of Forest Engineering	Author
Funder	This research was partly conducted within Trees For Me, a center of excellence supported by the Swedish Energy Agency and almost 50 stakeholders with grant number [P2021-90272]. In addition, this work was supported by AutoPlant, which was funded by the Swedish Innovation Agency, VINNOVA with grant number [2023-02747].	Author
Description	Article and figures	Author
Methods	-	Author
Variables	-	Author
Author keywords	Unmanned ground vehicle UGV, genetic algorithm GA, coverage path planning CPP, precision forestry, autonomous forest vehicle	Author
Vocabulary keywords (community standard)	Unmanned Ground Vehicle (UGV), Genetic Algorithm (GA), Coverage Path Planning (CPP), Terrain Constraints, Forestry	Author
Discipline	Forest Engineering, Forest vehicle systems, Precision Forestry	Archive/Repository/Publisher
Type of material	Article and figures	Author
Language	Eng, swe	Author
Time range covered	2024-06-01	Author
Geographic region	SE	Author
Version	-	Author
File format(s)	.docx, .png, .jpg, .shp	Author
Availability of the materials (open, embargo, registration, limited, registration required)	DEM and DTW maps are licenced, and is available at these authorities https://www.lantmateriet.se/sv/geodata/vara-produkter/produktlista/ https://www.skogsstyrelsen.se/e-tjanster-och-kartor/karttjanster/geodatatjanster/rest/ The coverage path planners are not commercial software, but it is possible to set up a similar model by following the steps and equations in this, and the previous papers.	Author
Justification for access restrictions	Licenced maps for input data.	Author

	The source code for the coverage path planners is not available due to intellectual property, but it is possible to set up a similar model by following the steps and equations in this paper.	
Licence	CC BY	Author
Connections with other research materials	.	Author
Access to the connected research materials	DOI provided for the published article: DOI:10.1080/14942119.2025.2469201	Author
Codes only: hardware/ software requirements for running the code	https://github.com/LTU-Machine-Design/CPP_comparison_mechanized_forest_regeneration TerraTrail is not commercial software, just algorithms that are developed within a research project. The code of the coverage path planners is not open source, but it is possible to set up a similar model by following the steps and equations in this paper.	Author
Connections to other products of research	https://doi.org/10.1007/s11676-025-01834-x https://doi.org/10.1080/14942119.2025.2469201 https://doi.org/10.3390/f15020263	Author
Personal data	None	Author
Confidential or secret data	The source code is not available, but it is possible to set up a similar model by following the steps and equations in this, and the previous papers.	Author
Publication date	2025-03-17	Archive/Repository/Publisher
Preservation policy	Open Access under Creative Commons; no specified retention period	Author
Permanent identifier (PID)	DOI: 10.1080/14942119.2025.2469201	Archive/Repository/Publisher