

Weekly Updates

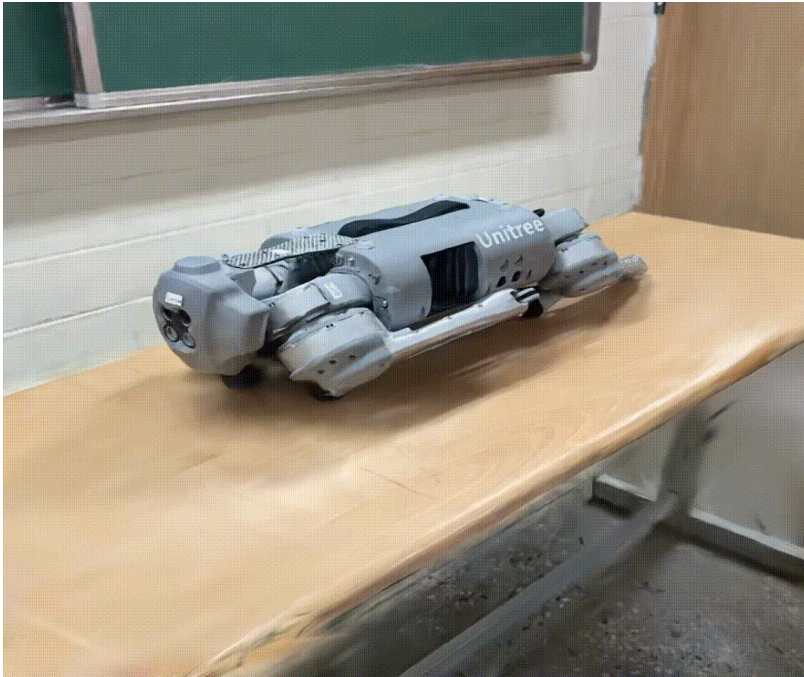
Minseok Jang

Personal Studies

- NeRF
- Data acquisition and manipulation with real LiDAR
- Udemy : ROS for Beginners
- Udemy : Pytorch for Deep Learning, Computer Vision
- Coursera : Introduction to network (by NVIDIA)
- 리눅스 프로그래밍 입문을 위한 리눅스 시스템 기초 및 실습 – 임성락 저

Weekly Updates

NeRF :Representing Scenes as Neural Radiance Fields for View Synthesis, 2020, CVPR
Implementing Practice



IMAGE



LiDAR

Weekly Updates

NeRF :Representing Scenes as Neural Radiance Fields for View Synthesis, 2020, CVPR

- Difficult to implement the function with severe light reflection
-> Create an appropriate environment(closing the curtains, turning off the lights above.....)
- Lot of computation
-> 6h 22m for image, Server 2, Titan XP
- Generalization
-> Needs computation for each object
- Only works for static objects

Will it be working on real world condition?

Weekly Updates

NeRF :Representing Scenes as Neural Radiance Fields for View Synthesis, 2020, CVPR

For real world condition

- Speed improvement
- Large Scale
- Multi scale
- Dynamic scene



Waymo – Block NeRF



NVIDIA – instant NGP

Weekly Updates

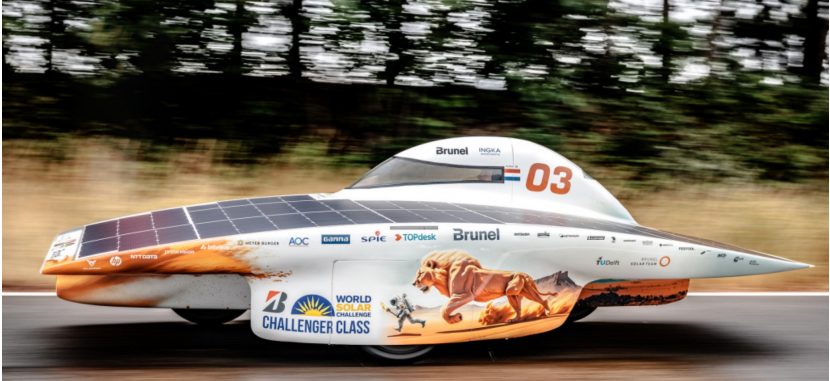
Solar Vehicle Strategy



	Arrival time	Control stop	Kms from Darwin
Day 1	Oct 22 15:43:11	Dunmarra	632
Day 2	Oct 23 13:58:45	Barrow Creek	1210
Day 3	Oct 24 11:40:37	Erlunda	1691.663
Day 4	Oct 25 15:50:21	Port Augusta	2717.642
Day 5	Oct 26 11:04:58	Adelaide	3021.52



	Arrival time	Control stop	Kms from Darwin
Day 1	Oct 22 15:09:00	Dunmarra	632
Day 2	Oct 23 16:55:11	Alice Springs	1494
Day 3	Oct 24 11:07:25	Erlunda	1691.663
Day 4	Oct 25 15:20:57	Port Augusta	2717.642
Day 5	Oct 26 10:44:41	Adelaide	3021.52



	Arrival time	Control stop	Kms from Darwin
Day 1	Oct 22 15:22:08	Dunmarra	632
Day 2	Oct 23 14:06:04	Barrow Creek	1210
Day 3	Oct 24 12:01:53	Erlunda	1691.663
Day 4	Oct 25 14:01:18	Glendambo	2431.56
Day 5	Oct 26 13:02:07	Adelaide	3021.52

Overlooked Points

- Investigation for 2025 Challenge (Southern Africa): Challenge rules, Public data acquisition.....
- Meeting previous researcher

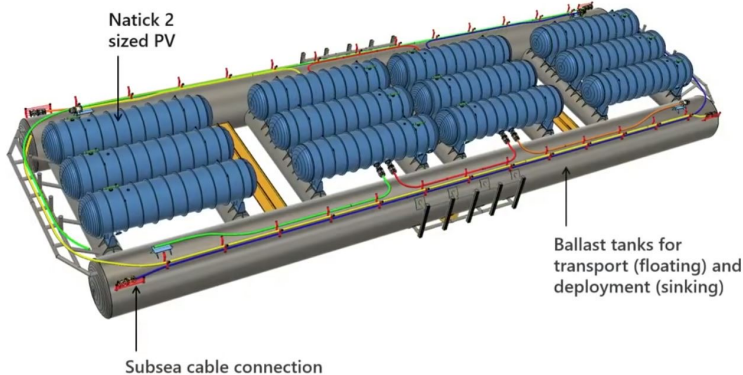
External Project

Project Natick, by Microsoft

"Dunking the data center", IEEE Spectrum, March 2017,



- Failures reduced by 1 in 8
- Significantly reduces energy used for cooling
- Achieving 100% energy sustainability by installing with a wave power plant
- by European Marine Energy Center



토목구조물 모형 경진대회 작품공모

교량, 댐, 해양구조물부터 신재생에너지단지, 스마트시티 등을 포함하는 포괄적 형태의 토목관련 구조물 모형을 창의적으로 제작하도록 하여 전공분야에 대한 관심과 이해를 유도하고, 나아가 창의성을 개발하는 동기를 부여함으로써 토목기술에 대한 이해와 전공에 대한 자긍심을 갖게 하고자 함.

응모자격

- 학부생 및 대학원생 개인 또는 6인 이하로 구성된 팀으로 응모 가능 (토목공학 전공자 1인 필수 포함)

응모일정

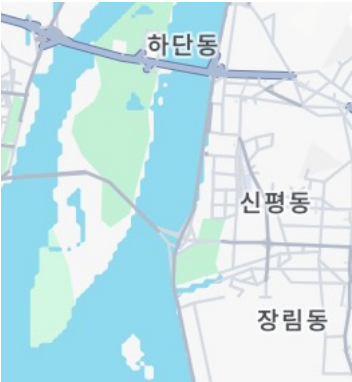
- 예선 작품접수 기간 : 2023년 12월 6일(수) ~ 2024년 1월 5일(금) 18:00까지

시상내용 (한국도로공사 사장상으로 시상 예정 / 2023년 기준 시상 내용)

- 대상 1팀 (상장 및 상금 150만원)
- 금상 1팀 (상장 및 상금 100만원)
- 은상 2팀 (상장 및 상금 50만원)
- 동상 3팀 (상장 및 상금 30만원)

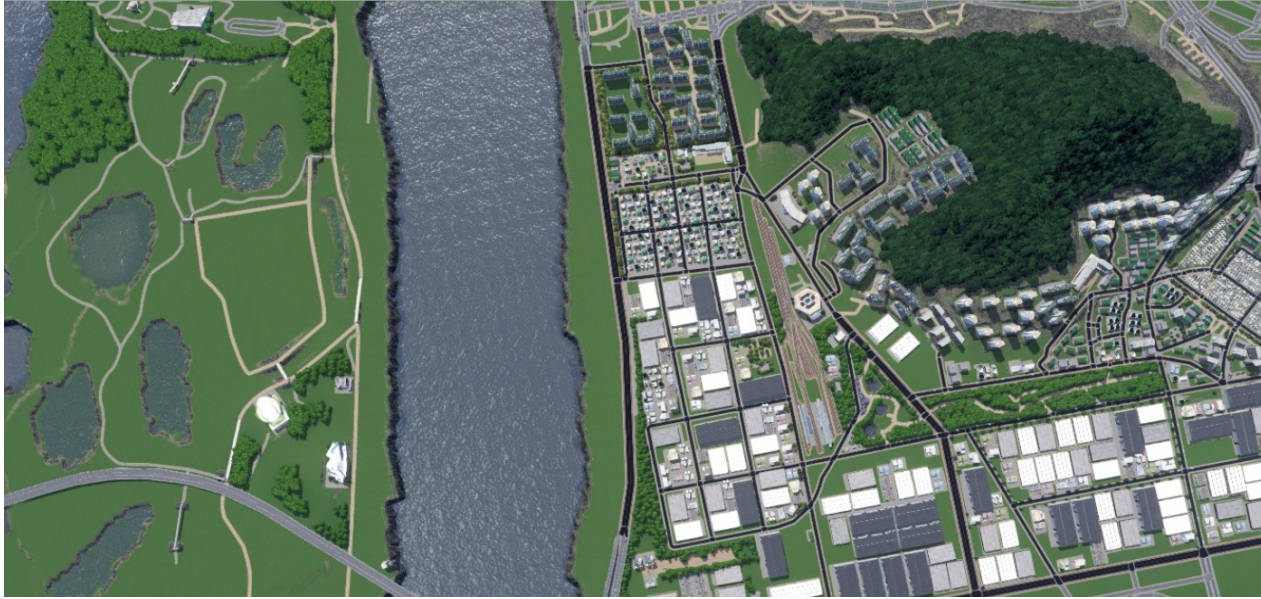
※ 자세한 응모방법과 심사기준은 2024 토목의 날 홈페이지 참조

홈페이지 이동

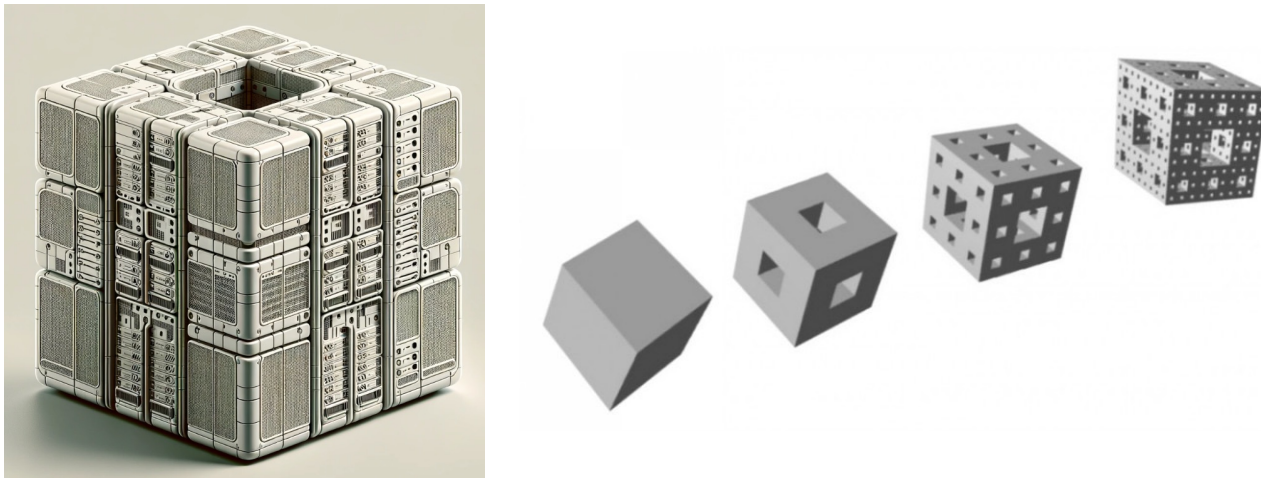


External Project

Applying <Project Natick> to Korea?



- North : Nakdong River Estuary Bank
- East : Industrial Complex, Residential Complex
- West : Completely Wild
- South : Ocean
- Way to Airport : only 2 Bridge -> Heavy traffic jamming



Plans

- Point Cloud matching Practice
(Open3D)
- NeRF for Autonomous Driving paper reading
(D-NeRF, Block-NeRF, NICER-SLAM.....)
- MECAR(DIY vehicle making) : KIAPI Autonomous Driving challenge, 2024 October /10-12 inch wheel
- Read previous research note for World Solar Challenge

