HCI Revival Group Links

Focused Repository List

Domain	Area	Name Panichella HCI	Repo/Links	No. Commits	Language	Hardware
Avionics	Drones	node-ar-drone	https://github.com/felixge/node-ar-drone	281	JavaScript	Yes
Avionics	Drones	dronekit-python	https://github.com/dronekit/dronekit-python	1’140	Python	Yes
Avionics	Drones	DroneSym	https://github.com/scorelab/DroneSym	344	TypeScript 42% JavaScript 32% HTML 12% Python 10%	Yes
Avionics	Drones	DronePilot	https://github.com/alduxvm/DronePilot	190	Python	Yes
Robot Operating System	Drones	cylon	https://github.com/hybridgroup/cylon	1’324	JavaScript	Yes
Automotive	Autopilot (sailboats)	pypilot	https://github.com/pypilot/pypilot	1’802	Python 53% C++ 26%	Yes

					C 7%	
Automotive	Car (driver assistance)	openpilot	https://opwiki.readthedocs.io/en/latest/ https://github.com/commaai/openpilot	1’815	C++ 52% C 39% Python 9%	Yes
Robot Operating System	Robotics, Drones, IoT	gobot	https://github.com/hybridgroup/gobot	2’639	Go	Yes
Robot Operating System	Robotics (arduino)	johnny-five	https://github.com/rwaldron/johnny-five	3’341	JavaScript	Yes
Robot Operating System	Robotics (Robot kit)	TurtleBot	https://www.turtlebot.com/ z.B. https://github.com/ROBOTIS-GIT/turtlebot3	510	Python 54% CMake 24% C++ 15%	Yes
Utility	Robotics (vacuum cleaner)	Valetudo	https://github.com/Hypfer/Valetudo	593	JavaScript 88% HTML 12%	Yes
Utility	Robotics (Lawn mower)	ardumower	https://www.ardumower.de/de/ https://github.com/Ardumower/ardumower	1421	HTML 43% C++ 38% Java 6% C 5%	Yes
Utility	CNC milling	grbl	https://github.com	698	C 84%	Yes

			/gnea/grbl		C++ 14.8%	

Disregarded Repositories

Domain	**Area**	**Name** Panichella HCI	**Repo/Links**	**No. Commits**	**Language**	**Hardware**
~~Avionics~~	~~Drones~~	~~mavlink~~	~~https://github.com/mavlink/mavlink~~	~~3'134~~	~~CMake 82% Python 10%~~	~~No? Message Marshalling Library~~
~~Utility~~	~~Robotics (Lawn mower)~~	~~PiMower~~	~~https://github.com/rohmer/PiMower~~	~~57~~	~~C++ 73.5% C 24.3% Other 2.2%~~	~~Yes~~
	~~Simulator (CPS)~~	~~COSSIM~~	~~https://omnetpp.org/download-items/COSSIM.html https://github.com/H2020-COSSIM z.B. https://github.com/H2020-COSSIM/eMcPAT~~	~~10~~	~~C++~~	~~No Simulation~~
	~~Simulator (Robots)~~	~~Coppelia Robotics~~	~~https://www.coppeliarobotics.com/ https://github.com~~	~~59~~	~~C++ 92% C 8%~~	~~No Simulation~~

			/CoppeliaRobotics z.B. https://github.com/CoppeliaRobotics/CoppeliaSimLib			
Avionics	Drones	Various Autonomous Projects from ETHZ		https://github.com/ethz-asl		C++ CMake Python MATLAB C
Utility	Robotics (vacuum cleaner)	LibreRVAC	https://github.com/LibreRVAC z.B. https://github.com/LibreRVAC/librervac-cordlib	7	C 71% C++ 16%	Yes
Automotive	Car Autopilot	Apollo Auto	https://github.com/ApolloAuto/apollo https://apollo.auto	17’293	C++ 84.9% Phyton 4.9% Starlack 3.9% Other 6.3%	Yes
Avionics/Automotive	Autopilot (airplanes, helicopters, boats, submarines, etc.)	ArduPilot Project	https://github.com/ArduPilot/ardupilot https://ardupilot.org/ardupilot/index.html	44’269	C++ 74% Python 11% C 10%	Yes
Avionics	Drones	Deep Drone Acrobatics (UZH drone project -	https://github.com/uzh-rpg/deep_drone_acrobatics	11 (mainly initial commits)	Python 52.8% C++ 45.2% CMake 2%	

		paper: http://rpg.ifi.uzh.ch/docs/RSS20_Kaufmann.pdf)				
Avionics	Drones	Autonomous Drone Racing (UZH, paper: http://rpg.ifi.uzh.ch/docs/ICRA19_Delmerico.pdf)	https://github.com/uzh-rpg/uzh_fpv_open	3	Python 98.7% CMake 1.3%	
Avionics	Drones	Perception-Aware Model Predictive Control for Quadrotors (UZH, paper: http://rpg.ifi.uzh.ch/docs/IROS18_Falanga.pdf)	https://github.com/uzh-rpg/rpg_mpc	23	C 56.9% C++ 42.1% CMake 1%	
Avionics	Drones	dronekit-android	https://github.com/dronekit/dronekit-android	5’810	Java	? Interface to control
Avionics	Drones	qgroundcontrol	https://github.com/mavlink/qgroundcontrol	17’253	C++ 60% C 21% QML 13%	Yes
Utility	Robotics (vacuum cleaner)	stofzuigerrobot	https://github.com/alvitawa/stofzuigerrobot	54	Java 75.7% C++ 21.6% Python 2.7%	Yes

~~Avionics~~	~~Drones~~	~~mavlink~~	~~https://github.com/mavlink/mavlink~~	~~3’134~~	~~CMake 82% Python 10%~~	~~No? Message Marshalling Library~~
~~Avionics~~	~~Drones~~	~~WebODM~~	~~https://github.com/OpenDroneMap/WebODM~~	~~1’510~~	~~JavaScript 50% Python 34%~~	~~No Image processing~~
~~Other communities~~	~~Robotics, Smart Cities, Industry 4.0~~	~~robonomics~~	~~https://github.com/airalab/robonomics https://aira.life/en/team/~~	~~374~~	~~Rust~~	~~No Communication~~
~~Utility~~	~~Robotics (vacuum cleaner)~~	~~dustcloud~~	~~https://github.com/dgiese/dustcloud~~	~~501~~	~~C 71% Python 12%~~	~~No rooting of systems~~

Healthcare

Interesting research papers, unfortunately without any references to public repositories. I was not able to find any public repositories for any of the applications / projects mentioned.

1. https://www.researchgate.net/publication/323268345_Medical_cyber-physical_systems_A_survey
2. https://journals.sagepub.com/doi/full/10.1155/2014/217415
3. https://dash.harvard.edu/bitstream/handle/1/24829604/tr-08-05.pdf
4. https://repository.upenn.edu/cgi/viewcontent.cgi?article=1465&context=cis_papers

Code Analysis Tools

- DeepCode.ai : https://www.deepcode.ai/app/gh/#welcome

1 Find more critical issues and security vulnerabilities

Semantic Analysis unveils coding issues where the developer's intent and syntax differ. This includes but goes beyond typical security and performance flaws.

2 Get results immediately

Semantic code analysis is lightning fast even on code-bases with millions of lines of code. You can use it in real-time as an extension in your IDE or directly in your Git workflow.

3 Benefit from a self-growing knowledge base

Instead of individual "rules" created by experts, DeepCode learns from millions of open-source commits. This creates a constantly evolving base of all discovered bugs.

4 Learn from example fixes of real commits

We use AI to present logical conclusions in the DeepCode engine. What it means for you: We not only show you what is logically wrong, but also how others have fixed the same problem.

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