Supplmentary material for “Current status and prospects of R-packages for the design of experiments”

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Table S1: A summary table for the CRAN task view that shows in order: the name of the task view, the full topic name, the total of packages, the total number of contributors, the average number of contributors, and the intra-connectivity. The intra-connectivity measures the percentage of packages that depends, suggest or imports at least one other package within the same task view. A low intra-connectivity suggests that development within the topic mostly occur in silos whilst high intra-connectivity suggests that there are more interactions within the topic. The row is ordered by the average number of contributors.

Name	Topic	# of packages	Total # of contributors	Average # of contributors	Intra-connectivity (%)
ExperimentalDesign	Design of Experiments (DoE) & Analysis of Experimental Data	112	211	2.27	29
SportsAnalytics	Sports Analytics	78	149	2.32	17
MedicalImaging	Medical Image Analysis	32	53	2.44	44
MetaAnalysis	Meta-Analysis	157	351	2.63	43
ChemPhys	Chemometrics and Computational Physics	75	162	2.65	28
ClinicalTrials	Clinical Trial Design, Monitoring, and Analysis	59	141	2.76	31
Distributions	Probability Distributions	257	597	2.88	45
Survival	Survival Analysis	239	558	2.92	73
ExtremeValue	Extreme Value Analysis	37	89	2.95	41
Optimization	Optimization and Mathematical Programming	136	328	3.04	29
TimeSeries	Time Series Analysis	339	793	3.04	58
OfficialStatistics	Official Statistics & Survey Statistics	131	325	3.06	40
Hydrology	Hydrological Data and Modeling	100	252	3.09	24
NumericalMathematics	Numerical Mathematics	115	271	3.14	63
Databases	Databases with R	43	95	3.23	77

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Name	Topic	# of packages	Total # of contributors	Average # of contributors	Intra-connectivity (%)
WebTechnologies	Web Technologies and Services	201	428	3.25	90
NaturalLanguageProcessing	Natural Language Processing	56	130	3.30	62
Bayesian	Bayesian Inference	213	621	3.35	49
FunctionalData	Functional Data Analysis	40	109	3.38	60
Robust	Robust Statistical Methods	59	136	3.41	75
Psychometrics	Psychometric Models and Methods	230	567	3.41	69
Tracking	Processing and Analysis of Tracking Data	46	149	3.46	48
Cluster	Cluster Analysis & Finite Mixture Models	108	305	3.47	39
Econometrics	Econometrics	152	363	3.50	81
Finance	Empirical Finance	158	426	3.61	57
MissingData	Missing Data	210	740	3.99	42
SpatioTemporal	Handling and Analyzing Spatio-Temporal Data	81	269	4.04	70
Spatial	Analysis of Spatial Data	197	618	4.26	83
GraphicalModels	Graphical Models	32	109	4.38	78
Pharmacokinetics	Analysis of Pharmacokinetic Data	29	109	4.55	21
HighPerformanceComputing	High-Performance and Parallel Computing with R	83	315	4.75	63
DifferentialEquations	Differential Equations	27	114	4.96	56
Environmetrics	Analysis of Ecological and Environmental Data	93	383	5.02	74
MachineLearning	Machine Learning & Statistical Learning	102	488	5.63	50
TeachingStatistics	Teaching Statistics	46	236	6.35	57
ReproducibleResearch	Reproducible Research	102	524	6.49	76
ModelDeployment	Model Deployment with R	31	146	6.55	74

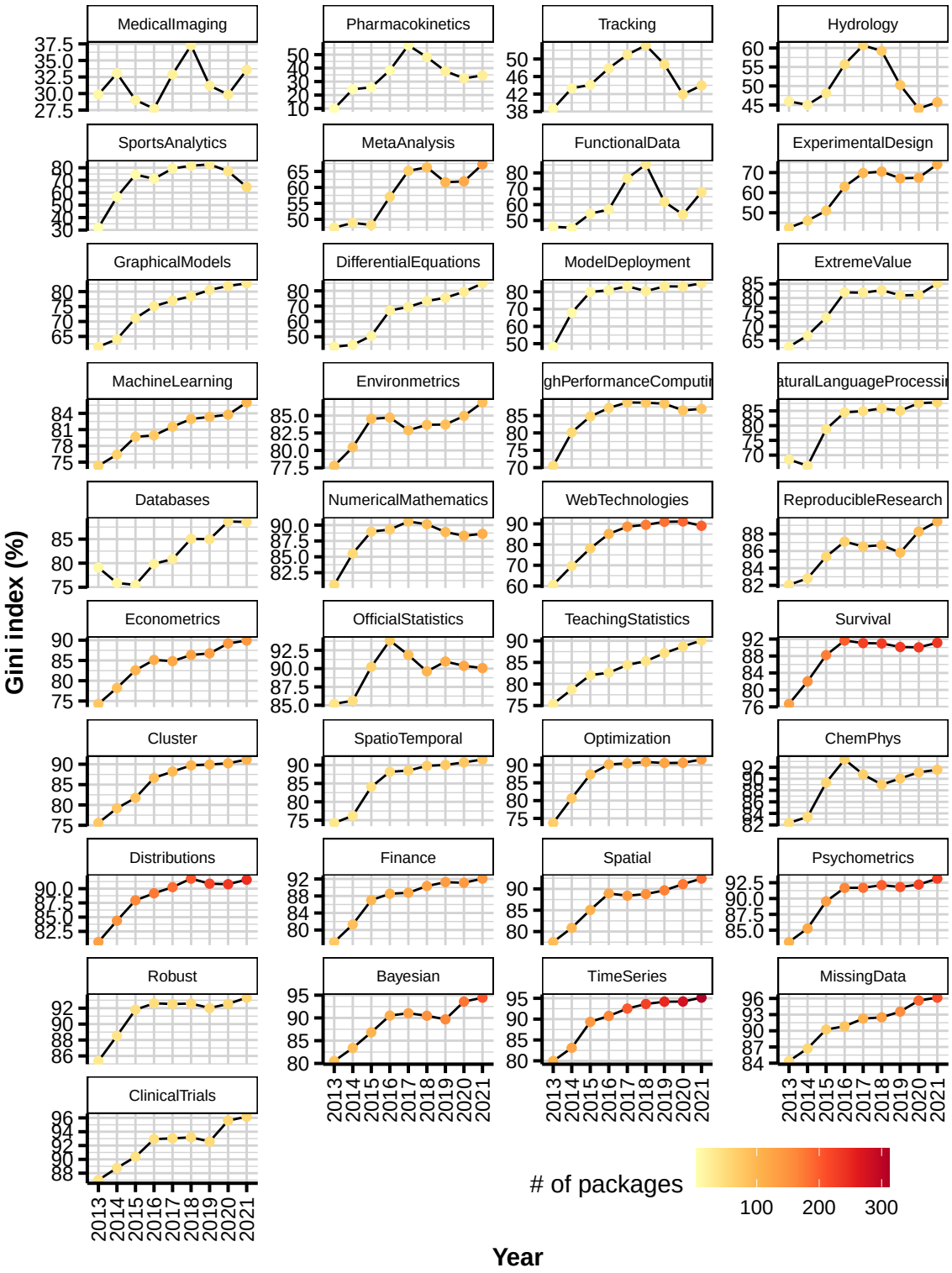

Figure S1: The points show the Gini index of the download counts by year facetted by CRAN task view with the color showing the number of packages. The grey line shows the distribution of the Gini index across years for all other CRAN task views. The facets are ordered by increasing value of the Gini index in 2021.

!6}{ModelDeployment} & Model Deployment with R & 31 & 146 & 6.55 & 74* \end{longtable}

Session information

R version 4.1.2 (2021-11-01)

Platform: x86_64-apple-darwin17.0 (64-bit)

locale: en_AU.UTF-8||en_AU.UTF-8||en_AU.UTF-8||C||en_AU.UTF-8||en_AU.UTF-8

attached base packages:

other attached packages:

- AsioHeaders(v.1.16.1-1)
- BH(v.1.75.0-0)
- DBI(v.1.1.1)
- DT(v.0.23)
- MASS(v.7.3-57)
- Matrix(v.1.4-1)
- R6(v.2.5.1)
- RColorBrewer(v.1.1-3)
- Rcpp(v.1.0.8.3)
- RcppArmadillo(v.0.10.8.1.0)
- RcppEigen(v.0.3.3.9.1)
- SnowballC(v.0.7.0)
- V8(v.4.2.0)
- anytime(v.0.3.9)
- askpass(v.1.1)
- assertthat(v.0.2.1)
- backports(v.1.3.0)
- base64enc(v.0.1-3)
- base64url(v.1.4)
- beeswarm(v.0.4.0)
- bit(v.4.0.4)
- bit64(v.4.0.5)
- blob(v.1.2.2)
- bookdown(v.0.24)
- broom(v.0.8.0)
- bslib(v.0.3.1)
- cachem(v.1.0.6)
- callr(v.3.7.0)
- cellranger(v.1.1.0)
- cli(v.3.3.0)
- clipr(v.0.7.1)
- codetools(v.0.2-18)
- colorspace(v.2.0-3)
- commonmark(v.1.7)
- cpp11(v.0.4.2)
- cranlogs(v.2.1.1)
- cranscrub(v.0.0.0.9000)
- crayon(v.1.5.1)
- crosstalk(v.1.2.0)

- ctv(v.0.9-2)
- curl(v.4.3.2)
- data.table(v.1.14.2)
- dbplyr(v.2.1.1)
- digest(v.0.6.29)
- distributional(v.0.2.2)
- dplyr(v.1.0.9)
- dtplyr(v.1.1.0)
- ellipsis(v.0.3.2)
- evaluate(v.0.14)
- fable(v.0.3.1)
- fabletools(v.0.3.1)
- fansi(v.1.0.3)
- farver(v.2.1.0)
- fastmap(v.1.1.0)
- feasts(v.0.2.2)
- fontawesome(v.0.2.2)
- forcats(v.0.5.1)
- fs(v.1.5.2)
- gargle(v.1.2.0)
- generics(v.0.1.2)
- ggbeeswarm(v.0.6.0)
- ggforce(v.0.3.3)
- ggnetwork(v.0.5.10)
- ggnewscale(v.0.4.5)
- ggplot2(v.3.3.6)
- ggraph(v.2.0.5)
- ggrepel(v.0.9.1)
- ggwordcloud(v.0.5.0)
- glue(v.1.6.2)
- googledrive(v.2.0.0)
- googlesheets4(v.1.0.0)
- graphlayouts(v.0.8.0)
- gridExtra(v.2.3)
- gtable(v.0.3.0)
- haven(v.2.4.3)
- here(v.1.0.1)
- highr(v.0.9)
- hms(v.1.1.1)
- htmltools(v.0.5.2)
- htmlwidgets(v.1.5.4)
- httpuv(v.1.6.3)
- httr(v.1.4.3)
- hunspell(v.3.0.1)
- ids(v.1.0.1)
- igraph(v.1.3.1)
- ineq(v.0.2-13)
- isoband(v.0.2.5)
- janeaustenr(v.0.1.5)
- jquerylib(v.0.1.4)
- jsonlite(v.1.8.0)

- kableExtra(v.1.3.4)
- knitr(v.1.37)
- labeling(v.0.4.2)
- later(v.1.3.0)
- lattice(v.0.20-45)
- lazyeval(v.0.2.2)
- lifecycle(v.1.0.1)
- lubridate(v.1.8.0)
- magrittr(v.2.0.3)
- mgcv(v.1.8-40)
- mime(v.0.12)
- modelr(v.0.1.8)
- munsell(v.0.5.0)
- network(v.1.17.2)
- networkD3(v.0.4)
- nlme(v.3.1-157)
- numDeriv(v.2016.8-1.1)
- openssl(v.2.0.2)
- pacman(v.0.5.1)
- pagedown(v.0.16)
- parsedate(v.1.3.0)
- patchwork(v.1.1.1)
- pillar(v.1.7.0)
- pkgconfig(v.2.0.3)
- pkgsearch(v.3.1.0)
- plotly(v.4.10.0)
- pluralize(v.0.2.0)
- plyr(v.1.8.6)
- png(v.0.1-7)
- polyclip(v.1.10-0)
- prettyunits(v.1.1.1)
- processx(v.3.5.2)
- progress(v.1.2.2)
- progressr(v.0.9.0)
- promises(v.1.2.0.1)
- ps(v.1.6.0)
- purrr(v.0.3.4)
- qdapRegex(v.0.7.5)
- rappdirs(v.0.3.3)
- readr(v.2.1.2)
- readxl(v.1.3.1)
- rematch(v.1.0.1)
- rematch2(v.2.1.2)
- renv(v.0.15.5)
- reprex(v.2.0.1)
- reshape(v.0.8.8)
- rlang(v.1.0.2)
- rmarkdown(v.2.11)
- rprojroot(v.2.0.2)
- rstudioapi(v.0.13)
- rticles(v.0.22)

- rvest(v.1.0.2)
- sass(v.0.4.0)
- scales(v.1.2.0)
- selectr(v.0.4-2)
- servr(v.0.24)
- shiny(v.1.7.1)
- slider(v.0.2.2)
- sna(v.2.7)
- sourcetools(v.0.1.7)
- splitstackshape(v.1.4.8)
- statnet.common(v.4.6.0)
- stringi(v.1.7.6)
- stringr(v.1.4.0)
- svglite(v.2.0.0)
- sys(v.3.4)
- systemfonts(v.1.0.3)
- tarchetypes(v.0.6.0)
- targets(v.0.12.0)
- tibble(v.3.1.7)
- tidygraph(v.1.2.0)
- tidyr(v.1.2.0)
- tidyselect(v.1.1.2)
- tidytext(v.0.3.2)
- tidyverse(v.1.3.1)
- tinytex(v.0.36)
- tokenizers(v.0.2.1)
- tsibble(v.1.1.0)
- tweenr(v.1.0.2)
- tzdb(v.0.2.0)
- utf8(v.1.2.2)
- uuid(v.1.0-3)
- vctrs(v.0.4.1)
- vipor(v.0.4.5)
- viridis(v.0.6.2)
- viridisLite(v.0.4.0)
- visNetwork(v.2.1.0)
- vroom(v.1.5.7)
- warp(v.0.2.0)
- webshot(v.0.5.2)
- websocket(v.1.4.1)
- withr(v.2.5.0)
- xfun(v.0.29)
- xml2(v.1.3.2)
- xtable(v.1.8-4)
- yaml(v.2.3.5)

loaded via a namespace (and not attached):

- utils(v.4.1.2)
- DiceDesign(v.1.9)
- tools(v.4.1.2)
- compiler(v.4.1.2)

- datasets(v.4.1.2)
- base(v.4.1.2)
- grDevices(v.4.1.2)
- grid(v.4.1.2)
- methods(v.4.1.2)
- pander(v.0.6.5)
- graphics(v.4.1.2)
- BsMD(v.2020.4.30)
- stats(v.4.1.2)
- rsm(v.2.10.3)