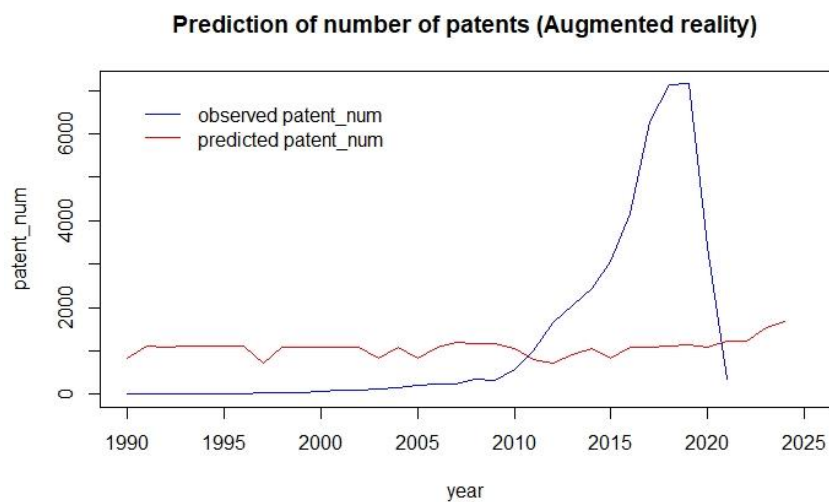


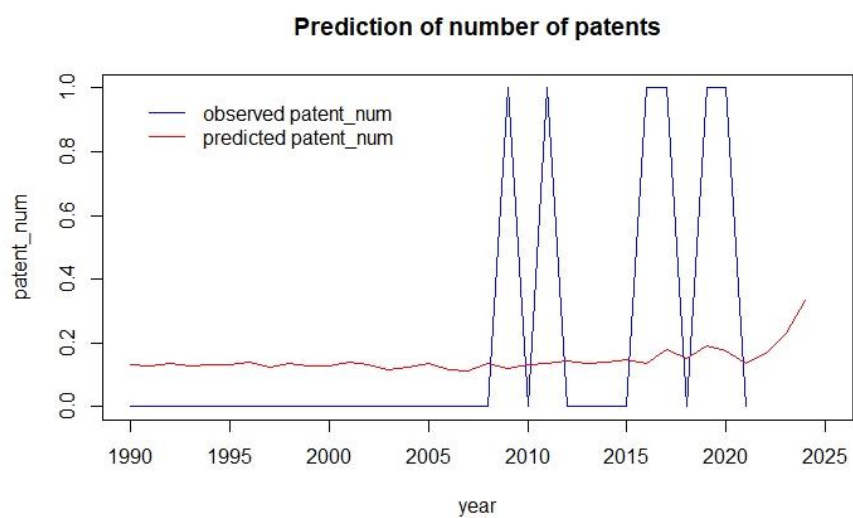
Supplementary Data

1. Patent Analysis Data

1) Augmented Reality



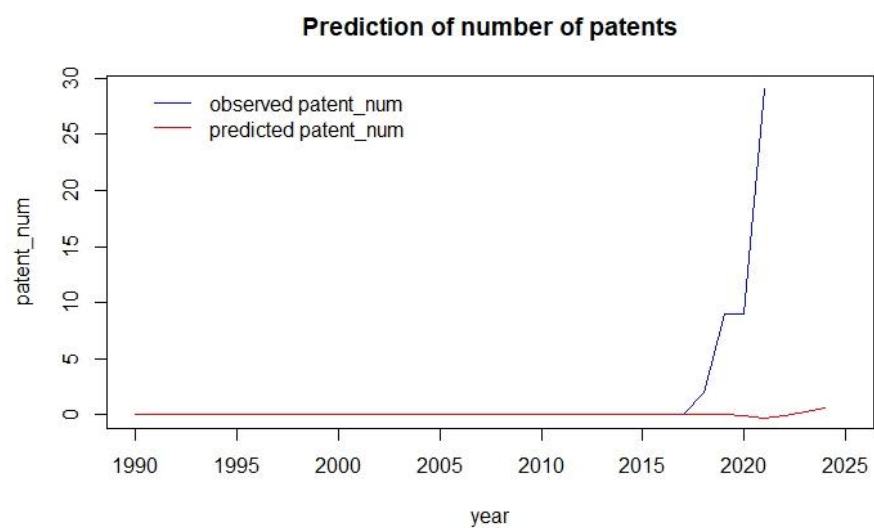
2) Collaborative Telepresence



word	TF	DF	TF_IDF
segment	14	2	9.70406053
object	7	1	7.69028602
candidates	10	2	6.93147181
target	6	1	6.59167373
devices	8	2	5.54517744
electronic	8	2	5.54517744

physical	4	1	4.39444915
set	4	1	4.39444915
beacon	6	2	4.15888308
device	6	2	4.15888308
receivercontroller	6	2	4.15888308
Submitted	6	2	4.15888308
work	6	2	4.15888308
data	3	1	3.29583687
information	3	1	3.29583687
visual	3	1	3.29583687
coupled	4	2	2.77258872
candidate	4	2	2.77258872
network	4	2	2.77258872
plurality	4	2	2.77258872
votes	4	2	2.77258872
voting	4	2	2.77258872
audience	6	3	2.43279065
avatars	2	1	2.19722458
determined	2	1	2.19722458
displayed	2	1	2.19722458
element	2	1	2.19722458
lampsbased	2	1	2.19722458
mapped	2	1	2.19722458
objects	2	1	2.19722458

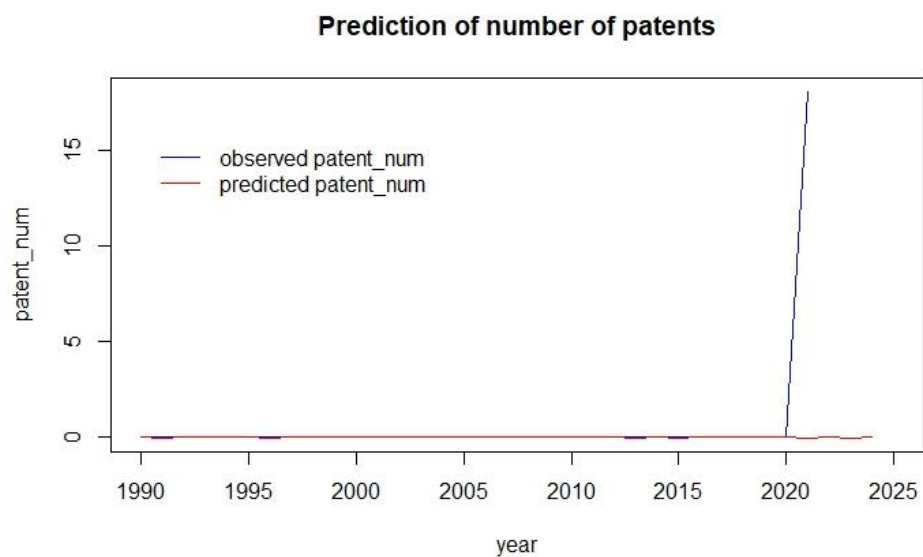
3) Digital Medicine



word	TF	DF	TF_IDF
medical	48	8	85.1072321
dataset	46	11	68.3277221
device	70	19	68.2191748
data	95	26	64.0732295
image	27	6	54.6583076
content	20	3	51.679951
delivery	20	4	47.21708
user	50	21	43.962473
medication	17	3	43.9279584
drug	13	1	42.6028815
learning	22	7	41.5987082
communication	28	11	41.5907874
microbiome	20	6	40.4876353
images	22	8	39.0074814
set	35	17	37.7972054
supplementary	25	11	37.1346316
gan	14	3	36.1759657
patient	19	7	35.9261571
devices	20	8	35.4613467
condition	26	13	34.6120992
andor	23	11	34.1638611
program	19	8	33.6882794
model	19	8	33.6882794
ingestible	13	3	33.5919682
system	70	32	33.1649046
active	14	4	33.051956
group	10	1	32.7714473
information	16	6	32.3901082
care	16	6	32.3901082

configured	24	13	31.94963
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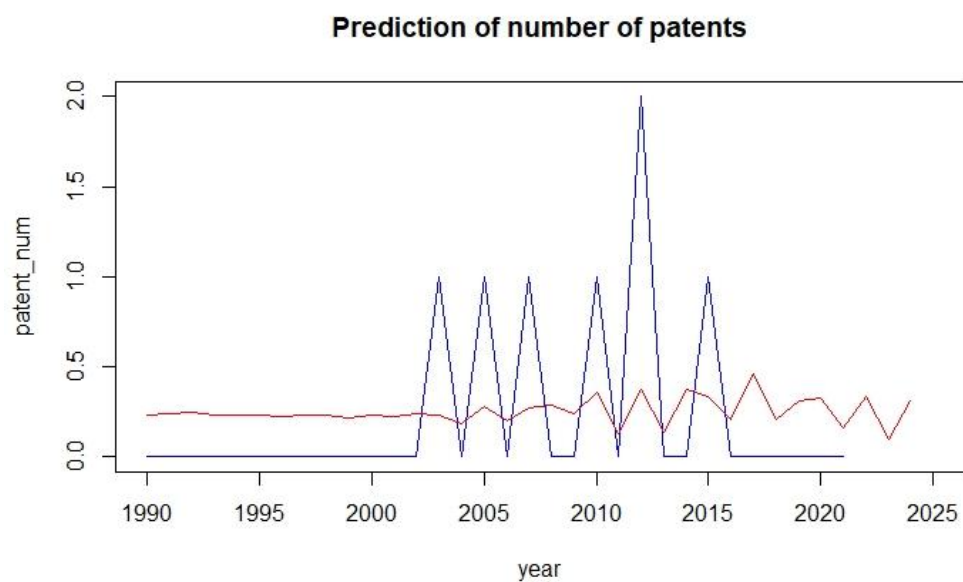
4) DNA Data Storage



word	TF	DF	TF_IDF
end	13	1	29.9336062
data	56	11	28.6062349
linker	12	1	27.6310211
nucleic	30	8	23.9552309
vdna	10	1	23.0258509
library	19	5	22.8754833
acid	28	8	22.3582155
sequence	23	7	21.0746868
dna	42	12	18.0928825
molecules	13	4	18.0218267
symbol	9	2	17.0740799
polynucleotides	7	1	16.1180957
vesicles	7	1	16.1180957
synthesis	13	5	15.6516465
polymer	6	1	13.8155106

fragment	6	1	13.8155106
overhanging	6	1	13.8155106
techniques	8	3	12.8755033
strands	8	3	12.8755033
information	13	7	11.9117795
hash	5	1	11.5129255
homopolymer	6	2	11.3827199
memory	6	2	11.3827199
tracts	6	2	11.3827199
associated	6	2	11.3827199
system	7	3	11.2660654
encoding	11	7	10.0791981
libraries	6	3	9.65662747
nucleotides	6	3	9.65662747
embodiments	6	3	9.65662747

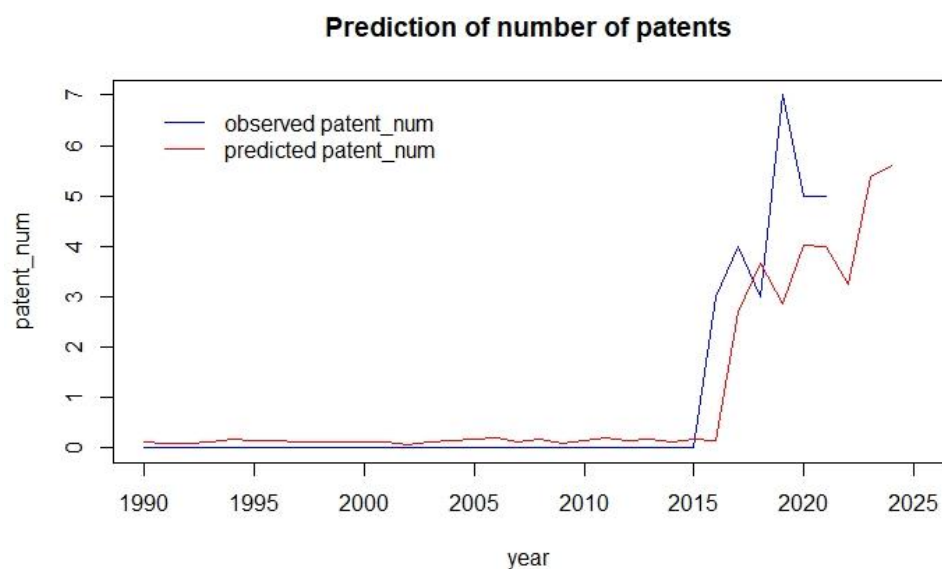
5) Electric Aviation



word	TF	DF	TF_IDF
system	19	2	16.0986593

driver	8	1	10.0221037
fuel	11	2	9.32027646
interface	10	2	8.4729786
control	9	2	7.62568074
cavity	6	1	7.51657781
powder	6	1	7.51657781
method	10	3	5.59615788
surface	4	1	5.01105187
enclosure	4	1	5.01105187
blade	8	3	4.4769263
coupling	5	2	4.2364893
engine	5	2	4.2364893
portion	5	2	4.2364893
airfoil	5	2	4.2364893
onboard	3	1	3.75828891
vtol	3	1	3.75828891
fsi1	3	1	3.75828891
fsi2	3	1	3.75828891
articles	3	1	3.75828891
different	3	1	3.75828891
layer	3	1	3.75828891
platform	3	1	3.75828891
platinum	3	1	3.75828891
overspeed	4	2	3.38919144
gas	10	4	3.36472237
coating	5	3	2.79807894
least	3	2	2.54189358
aircraft	2	1	2.50552594
electric	2	1	2.50552594

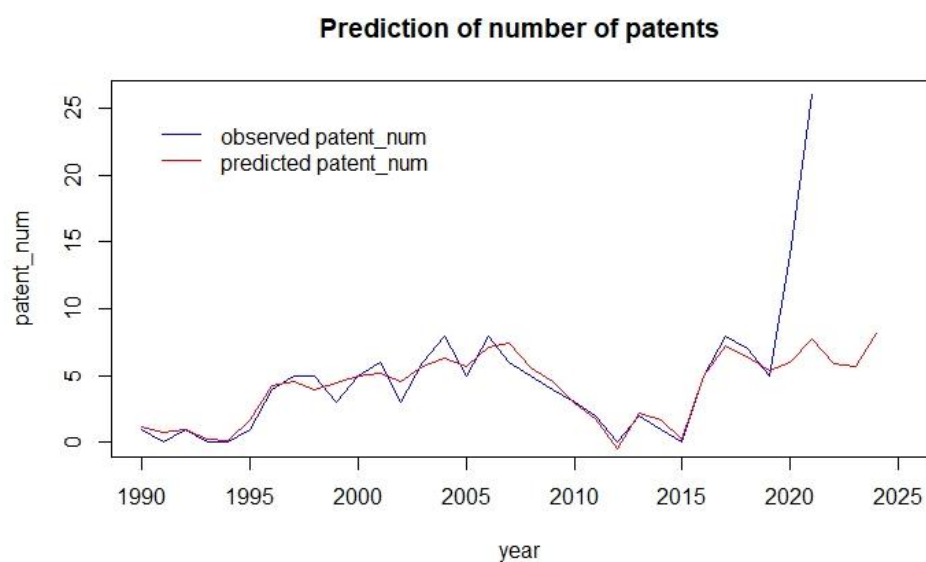
6) Electroceuticals



word	TF	DF	TF_IDF
implantable	50	10	44.8970797
configured	47	10	42.2032549
signal	34	7	41.357441
pain	18	2	39.5500424
circuit	26	5	39.1060123
ultrasonic	31	8	34.0569809
therapy	17	3	32.4622226
described	27	8	29.6625318
electrical	24	7	29.1934878
patient	15	3	28.6431376
cancer	21	6	28.3484611
information	12	2	26.3666949
power	19	6	25.6486076
devices	30	11	24.3279065
tissue	18	6	24.2986809
fiber	9	1	23.4242072
material	9	1	23.4242072

data	17	6	22.9487542
management	12	3	22.9145101
trigger	13	4	21.9231864
device	33	13	21.6737247
analyte	12	4	20.2367874
pressure	12	4	20.2367874
temperature	12	4	20.2367874
amount	13	5	19.5530062
cells	14	6	18.898974
stimulation	7	1	18.2188278
processor	7	1	18.2188278
emit	18	9	17.8785319
embodiments	8	2	17.5777966

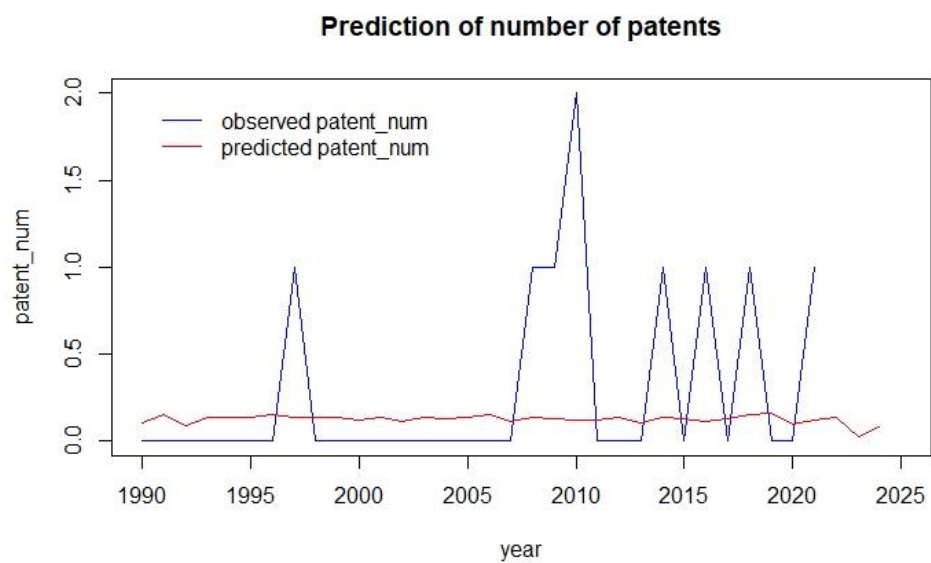
7) Gene drive



word	TF	DF	TF_IDF
nucleic	105	40	137.582388
prostate	64	17	136.544561
invention	168	74	118.673924

polypeptides	50	14	115.791516
cells	75	33	112.314
gene	114	57	109.831876
expression	85	43	105.373725
dna	65	30	103.343066
acid	71	36	100.320345
proteins	41	13	97.7777508
acids	63	32	96.2244964
cell	70	39	93.4500747
protein	55	28	91.112158
delta6desaturase	32	8	90.4529902
present	70	42	88.3876284
relates	50	25	88.2891991
isolated	45	24	81.2252113
sequence	51	31	79.4653755
methods	102	70	77.6424657
vhhl	19	2	74.5800964
encoding	43	27	72.7420685
comprising	54	39	72.0900576
least	34	18	70.7010124
antigen	33	17	70.4057892
human	29	13	69.1598725
genetic	25	9	68.0323857
compositions	45	34	66.0839607
genes	30	16	65.7200153
recombinant	34	21	65.7164943
plants	32	19	64.9007439

8) Green ammonia

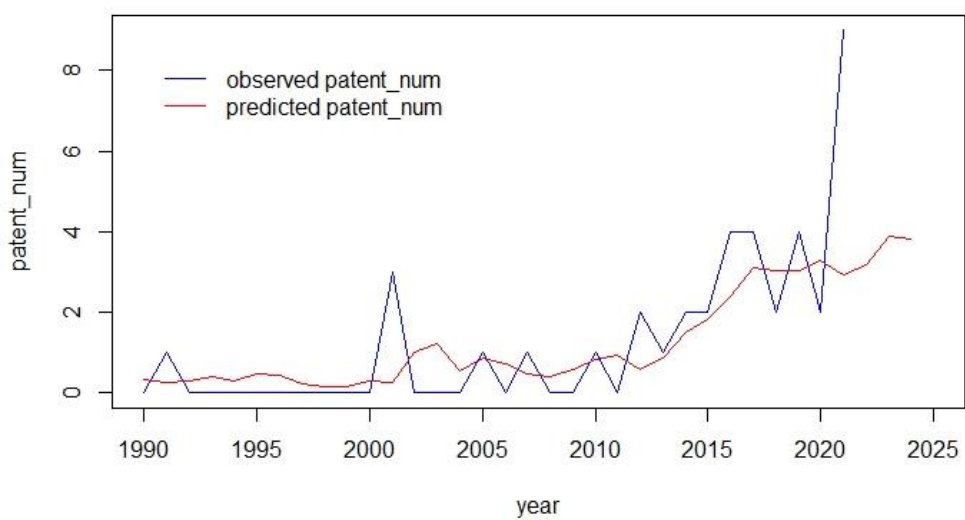


word	TF	DF	TF_IDF
hydrogen	8	1	14.3340758
canisters	10	2	13.8629436
filter	10	2	13.8629436
reaction	13	4	11.3810936
activated	8	2	11.0903549
charcoal	8	2	11.0903549
article	6	1	10.7505568
odor	6	1	10.7505568
sensing	9	3	9.8875106
indicating	5	1	8.95879735
ammonia	12	5	8.31776617
acid	7	3	7.69028602
cracking	4	1	7.16703788
unit	4	1	7.16703788
absorbing	4	1	7.16703788
agent	4	1	7.16703788
odors	4	1	7.16703788
visual	4	1	7.16703788

medium	4	1	7.16703788
combination	6	3	6.59167373
distinct	6	3	6.59167373
dyes	6	3	6.59167373
element	6	3	6.59167373
identity	6	3	6.59167373
microorganism	6	3	6.59167373
presence	6	3	6.59167373
quantity	6	3	6.59167373
copperii ammonia	6	3	6.59167373
hydroxide	6	3	6.59167373
muconic	6	3	6.59167373

9) Green Hydrogen

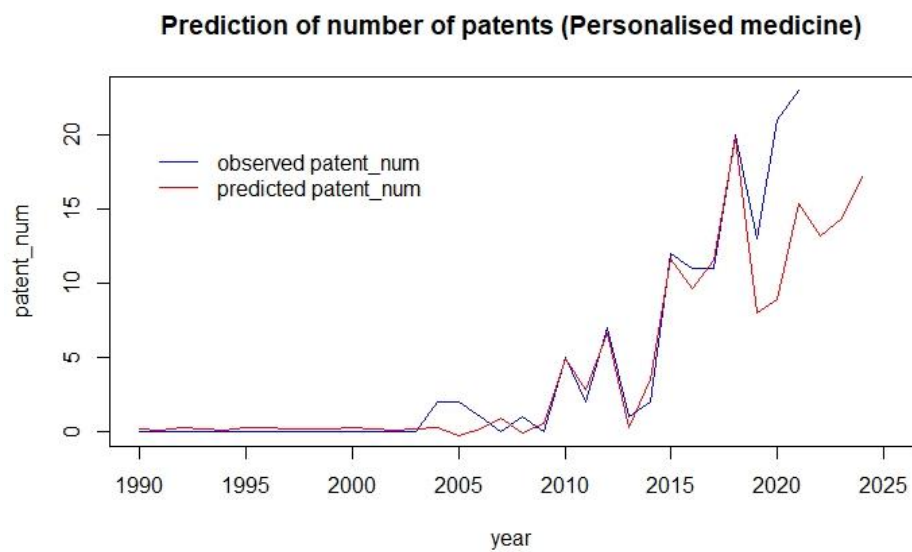
Prediction of number of patents



word	TF	DF	TF_IDF
hydrogen	45	15	44.4875127
gas	25	8	39.0993885
acid	28	10	38.1725356
compounds	17	6	30.8599294

node	10	1	30.6805294
methods	20	9	29.1723005
power	18	9	26.2550704
comprising	19	10	25.902792
oxide	12	4	25.8211464
aqueous	13	5	25.6027284
charge	8	1	24.5444235
plasma	9	2	23.9632904
light	9	2	23.9632904
magnesium	10	3	23.7490575
molecule	10	3	23.7490575
system	18	11	22.9732824
optical	7	1	21.4763705
molecules	9	3	21.3741518
calcium	8	2	21.3007026
polymer	8	2	21.3007026
tubulin	8	2	21.3007026
producing	10	5	19.6944065
least	10	5	19.6944065
material	9	4	19.3658598
method	16	12	19.1400121
compound	8	3	18.999246
process	12	8	18.7677065
sulfuric	7	2	18.6381148
beam	7	2	18.6381148
boron	7	2	18.6381148

10) Personalized medicine

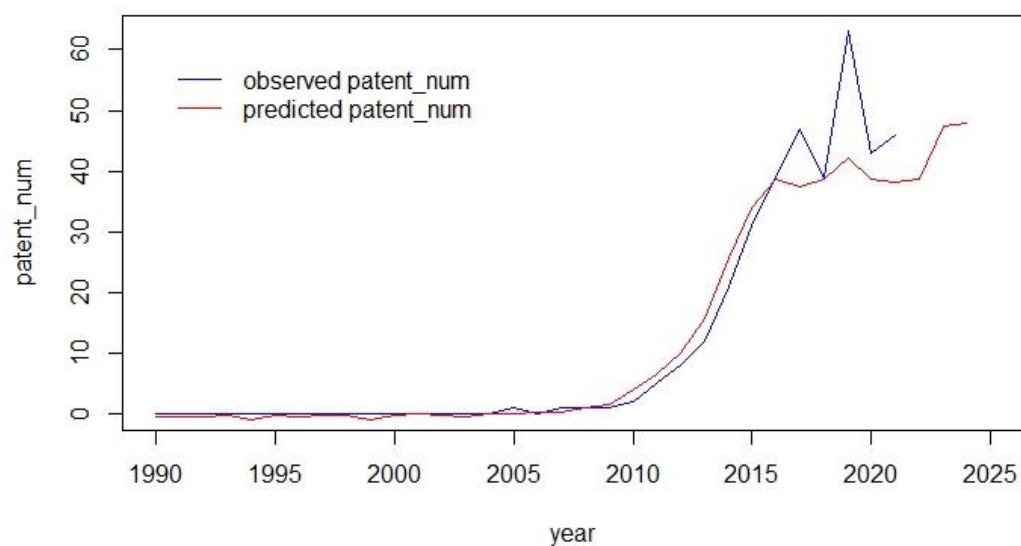


word	TF	DF	TF_IDF
data	53	13	119.715471
image	30	4	98.6520566
cells	52	20	96.3725028
sample	50	19	95.1053763
compounds	56	29	83.8119754
method	67	38	82.6966363
phase	23	3	80.7655451
present	71	45	75.9130866
cell	56	34	75.1795374
cancer	40	21	72.2718939
relates	79	53	71.7996045
solid	23	5	71.4398476
methods	70	48	70.4213651
subject	36	18	70.3224295
expression	28	10	69.9984468
invention	92	63	67.9840179
region	25	8	67.5153806
treatment	63	45	67.3594994
fluid	22	6	64.9424523
comparator	16	2	60.7876402
agent	25	11	60.3233288
comprising	53	42	60.2419033
set	18	4	59.191234
moiety	21	8	56.7129197
targeting	21	8	56.7129197
binding	24	12	55.9893706
system	29	19	55.1611183
patient	20	8	54.0123045
and/or	29	20	53.7462035

compositions 39 33 53.4876917

11) Plasmonic materials

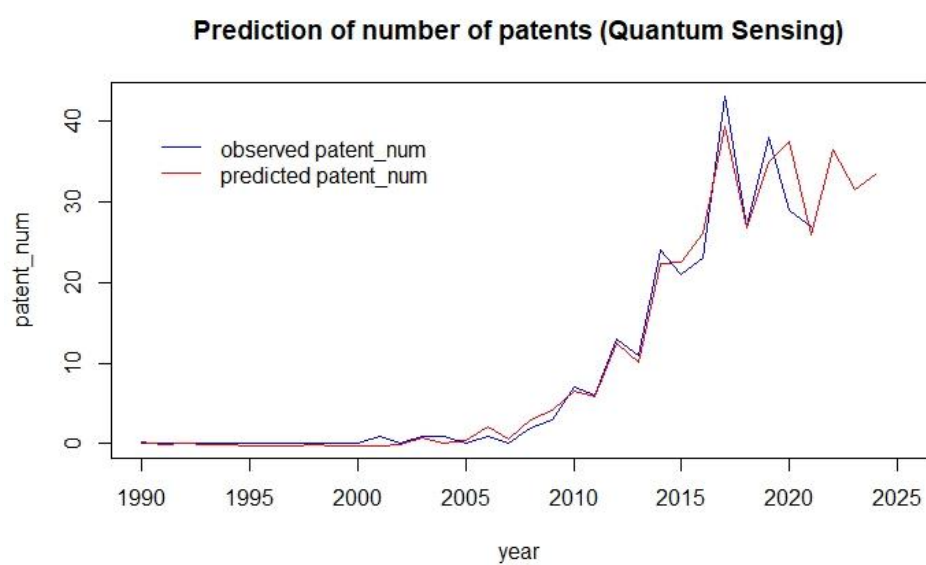
Prediction of number of patents (Plasmonic materials)



word	TF	DF	TF_IDF
layer	355	103	442.77
material	353	124	375.36
surface	326	130	331.36
structure	158	49	312.78
peg	133	36	303.34
light	194	78	295.31
optical	158	59	283.97
region	108	26	280.35
waveguide	126	50	246.94
plasmonic	206	111	241.67
metal	105	39	231.29
devices	166	91	227.40
transducer	186	106	226.70
least	179	102	224.99

positioned	109	46	222.52
magnetic	105	43	221.28
portion	114	51	221.21
substrate	150	84	217.35
nft	109	50	213.62
dielectric	102	44	212.67
nearfield	100	48	199.98
oxide	69	21	193.24
configured	105	59	188.72
device	115	74	181.03
field	131	90	180.88
film	70	29	174.33
thereof	73	33	172.67
conductive	70	30	172.04
electromagnetic	66	26	171.32

12) Quantum Sensing

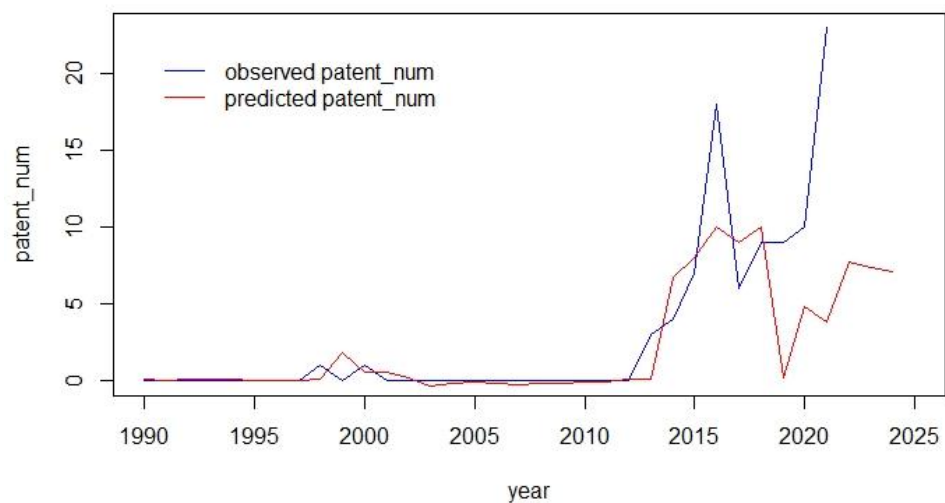


word	TF	DF	TF_IDF
layer	203	45	369.53

material	285	93	315.12
light	181	54	297.14
quantum	152	42	286.94
diamond	150	41	286.70
optical	180	59	279.83
magnetic	171	67	244.44
spin	80	13	240.79
field	122	47	216.89
excitation	97	32	208.79
device	183	90	208.27
semiconductor	132	58	207.43
nanometers	48	4	193.90
configured	124	59	192.77
signal	102	42	192.55
region	72	20	187.52
substrate	105	49	182.38
source	98	44	180.55
surface	90	41	172.02
frequency	83	39	162.69
defect	61	19	161.85
diode	55	14	161.75
detector	97	56	155.77
system	87	53	144.42
sensor	61	26	143.54
magneto-optical	46	12	141.87
unit	41	8	141.52
micro	44	11	139.22
array	57	25	136.28

13) Social Robots

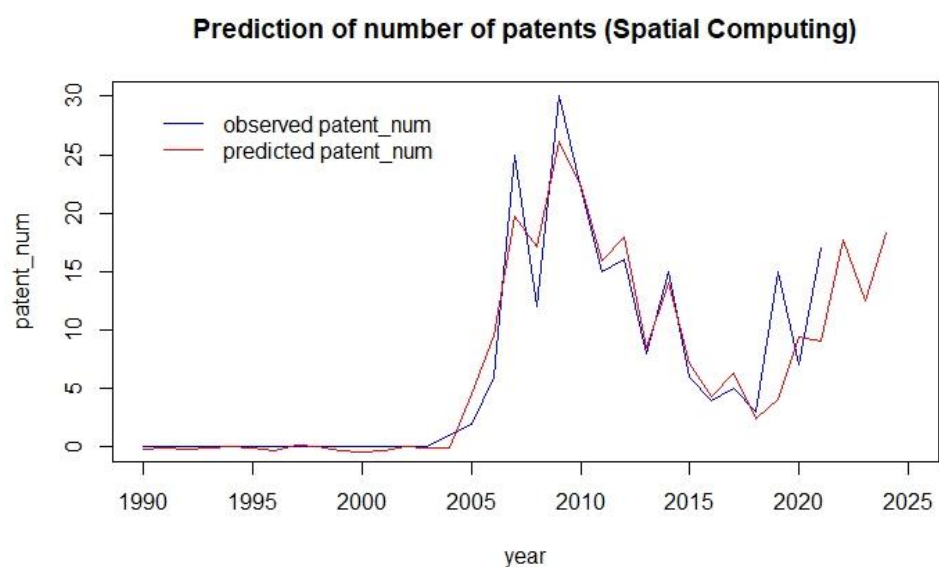
Prediction of number of patents



word	TF	DF	TF_IDF
patient	89	9	196.536423
robot	138	29	153.133373
monitoring	85	17	137.741459
information	97	29	107.637226
system	124	38	105.064935
optical	45	8	104.113572
social	74	22	101.777032
task	43	8	99.486302
least	143	45	97.5571897
user	74	25	92.7044597
sensor	55	17	89.1268262
device	139	48	86.04645
telemetry	45	14	81.1264187
signal	32	8	74.0363177
network	40	15	69.5308314
image	30	8	69.4090479
video	27	6	69.2536327
snet	26	6	66.6886833

dialog	18	2	61.4204499
object	35	15	60.8394774
data	48	25	60.1326225
content	23	6	58.9938352
method	50	27	58.9327498
circuitry	34	16	57.0399695
human	35	17	56.7170712
detector	22	6	56.4288859
set	26	10	54.9370701
services	20	5	54.3820007
sensors	33	17	53.4760957
action	26	11	52.6747743

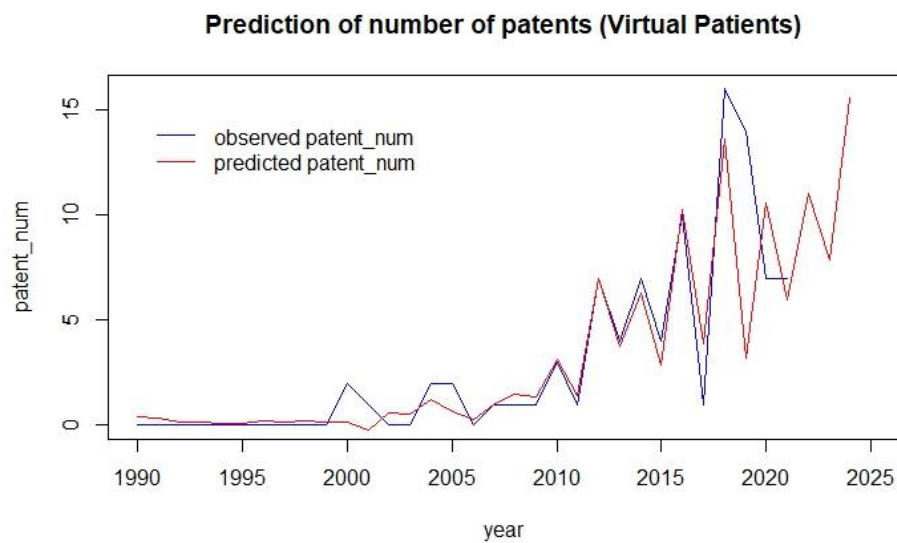
14) Spatial Computing



word	TF	DF	TF_IDF
configurable	453	109	297.215977
data	318	84	290.631336
circuits	361	104	253.647959
configuration	158	42	252.071013

set	382	111	243.749388
memory	109	27	220.657612
routing	108	27	218.633231
circuit	355	115	214.06361
logic	164	58	209.764008
tile	72	12	200.997858
input	125	43	196.54958
reconfigurable	86	25	180.470117
method	128	53	175.053085
nodes	76	21	172.18133
several	181	82	169.731966
storage	79	26	162.799203
device	75	28	149.196783
system	77	30	148.040128
user	69	26	142.191709
interconnect	84	39	140.087373
nanoscale	45	9	137.430053
particular	106	57	137.391186
least	172	95	136.26495
elements	69	30	132.659336
array	69	30	132.659336
operation	81	42	129.226279
design	58	22	128.823339
plurality	65	29	127.100278
fabric	40	8	126.374468
signal	72	37	123.768008

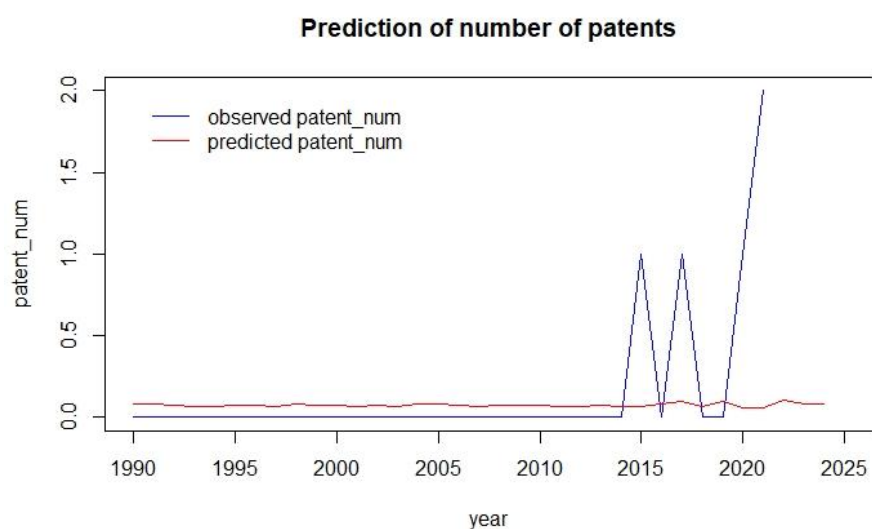
15) Virtual Patients



word	TF	DF	TF_IDF
glucose	66	13	123.538944
virtual	58	19	87.8773795
data	51	17	82.6448752
nitrogen	45	15	78.2221853
insulin	39	12	75.8904958
patient	77	33	75.8064216
system	66	30	71.0735719
simulation	39	15	67.7925606
device	32	11	64.8304914
model	44	20	64.518831
methods	61	31	63.7525398
user	27	9	59.6234092
healthcare	26	9	57.4151348
error	18	3	56.2421726
sensor	21	6	53.8639365
drug	32	16	53.6846772
medical	34	18	53.2582979
method	58	36	52.1966124
ammonia	30	15	52.1481235

scavenging	30	15	52.1481235
controller	19	5	51.6629007
level	34	19	51.5143259
physiological	22	8	50.8999684
least	29	15	50.4098527
cost	16	3	49.9930423
computer	27	14	48.6758512
training	28	15	48.671582
information	26	13	48.6668566
image	21	8	48.5863335
mpc	15	3	46.8684772

16) Whole-Genome Synthesis

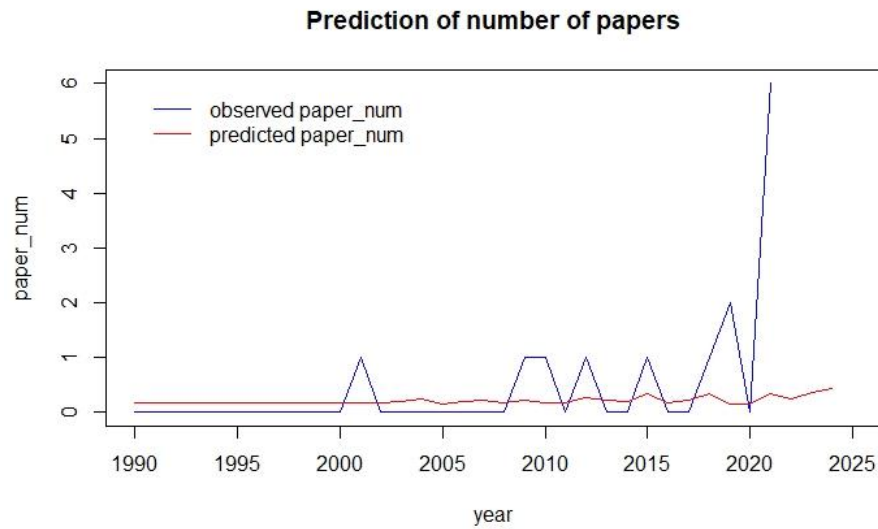


word	TF	DF	TF_IDF
optical	9	1	9.8875106
perception	8	1	8.78889831
depthimage	7	1	7.69028602
layer	7	1	7.69028602
sensor	10	2	6.93147181
information	6	1	6.59167373

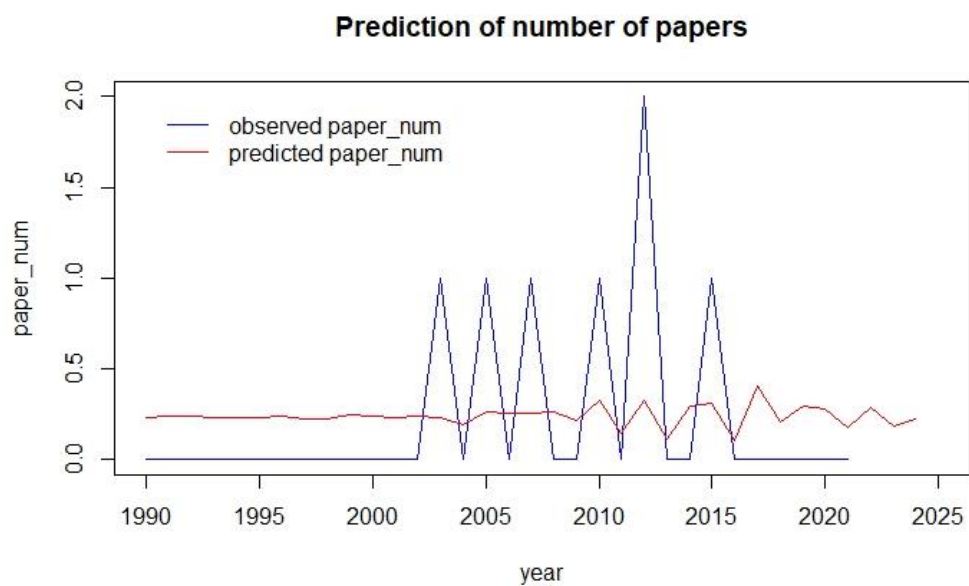
map	6	1	6.59167373
module	6	1	6.59167373
object	8	2	5.54517744
constructing	5	1	5.49306144
robot	7	2	4.85203026
area	4	1	4.39444915
image	4	1	4.39444915
material	4	1	4.39444915
photoconductive	4	1	4.39444915
mode	4	1	4.39444915
least	5	2	3.4657359
system	5	2	3.4657359
colored	3	1	3.29583687
dynamic	3	1	3.29583687
cover	3	1	3.29583687
treatment	3	1	3.29583687
audio	3	1	3.29583687
audiovisual	3	1	3.29583687
rcu	3	1	3.29583687
visual	3	1	3.29583687
humans	3	1	3.29583687
apparatus	4	2	2.77258872
adjusted	2	1	2.19722458
adopted	2	1	2.19722458

2. SCI Papers Analysis Data

1) AI led molecular design

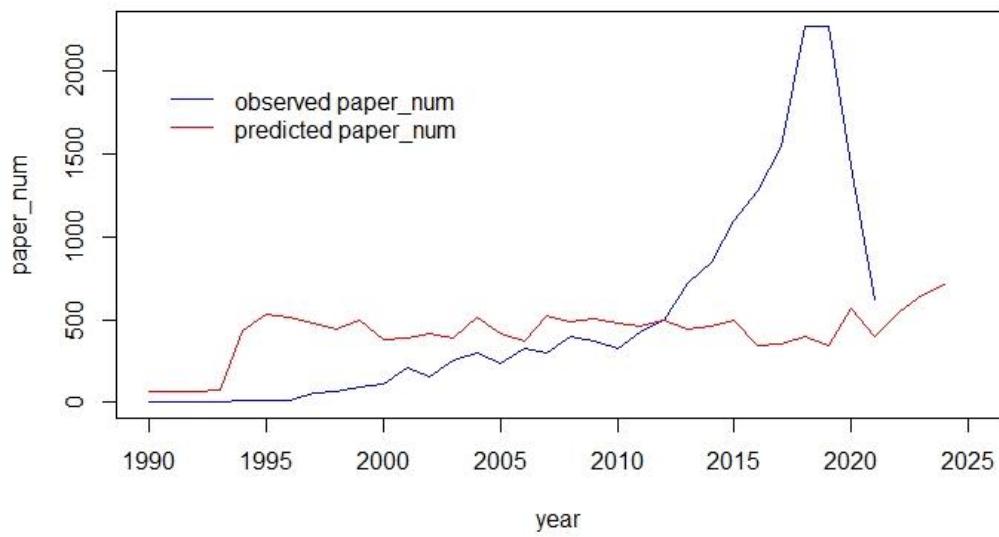


2) Algorithms for quantum computers



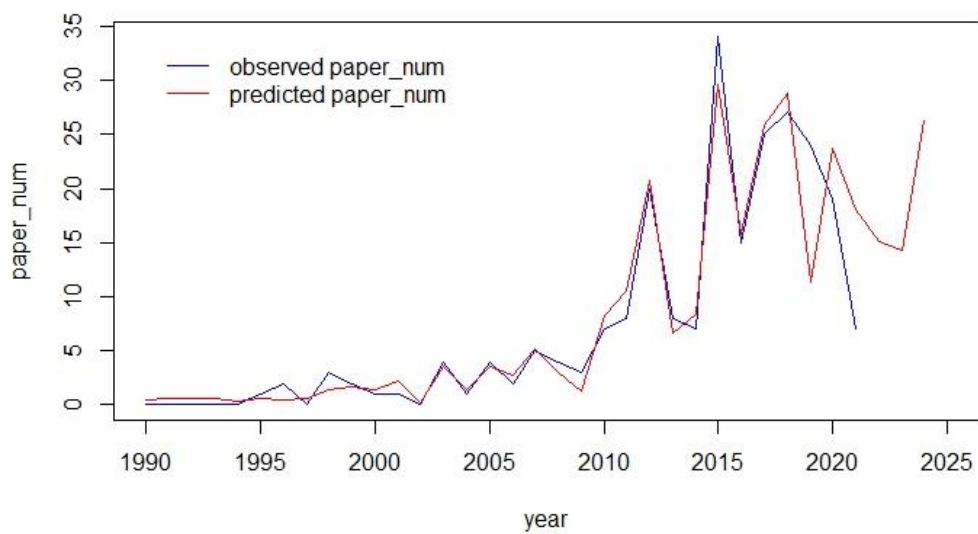
3) Augmented reality

Prediction of number of papers (Augmented Reality)

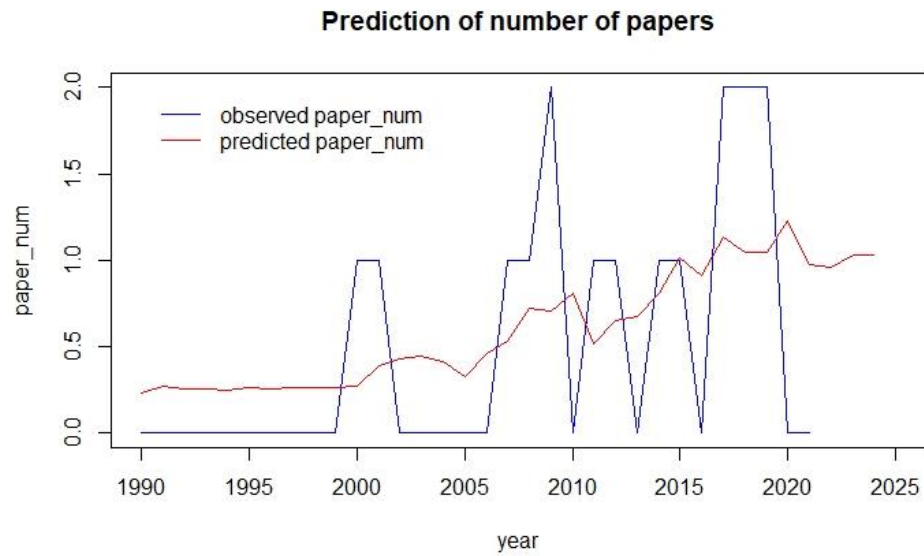


4) Bioplastics for a Circular Economy

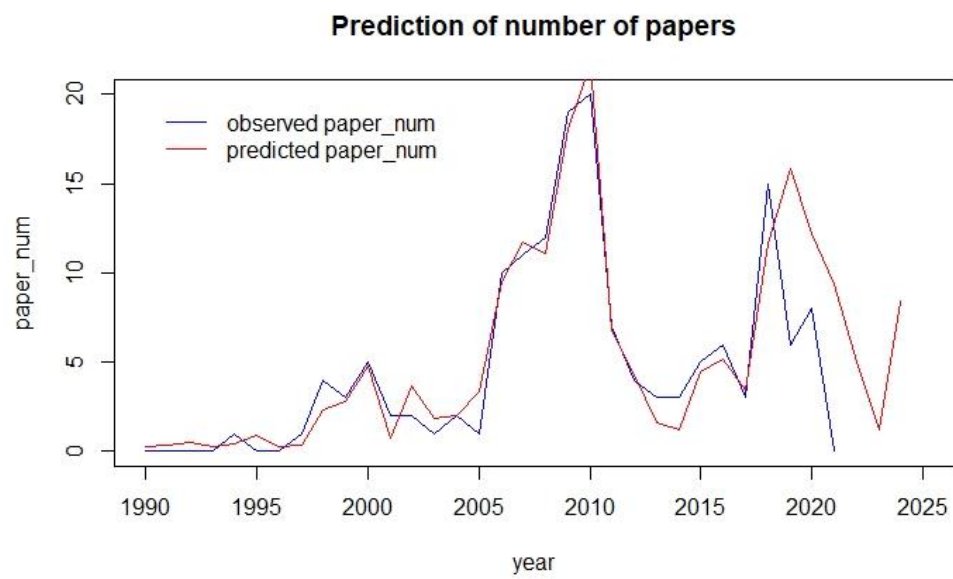
Prediction of number of papers



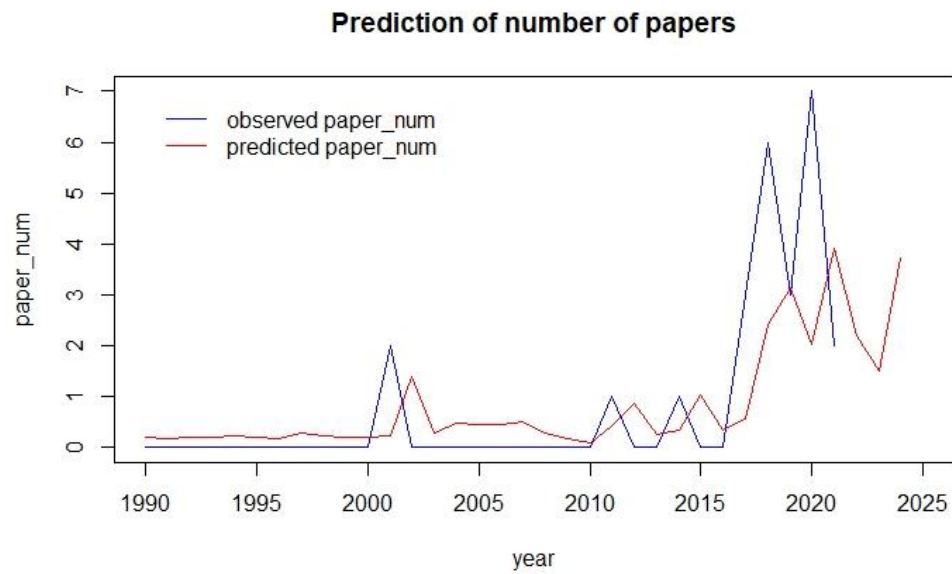
5) Breath sensors diagnose disease



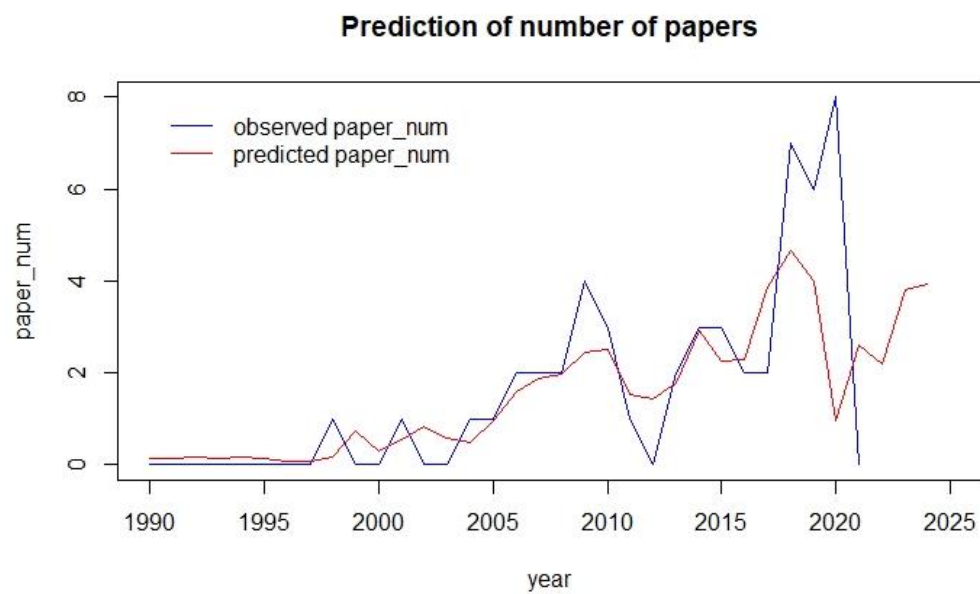
6) Collaborative Telepresence



7) Decarbonization rises

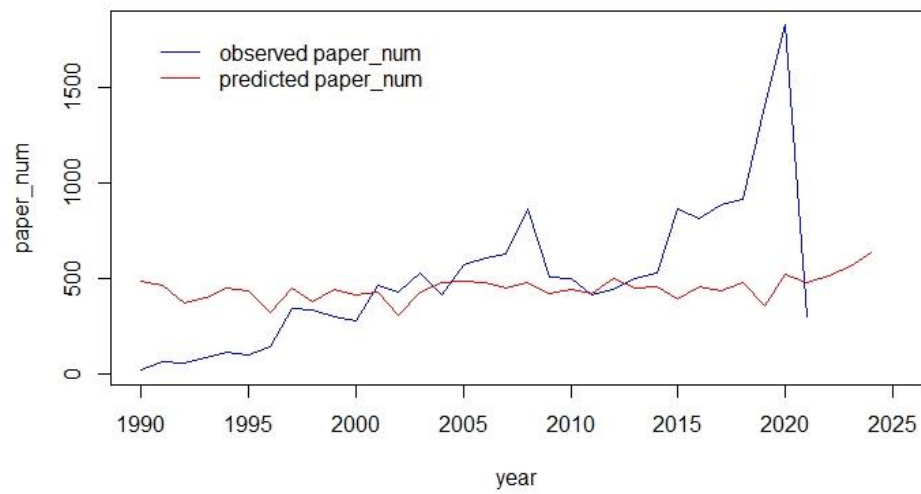


8) More capable digital helpers



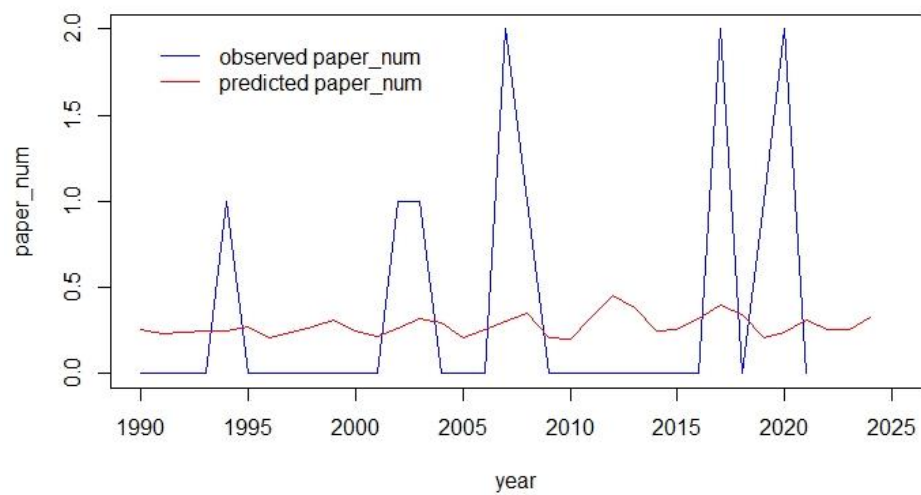
9) Digital Medicine

Prediction of number of papers (Digital Medicine)

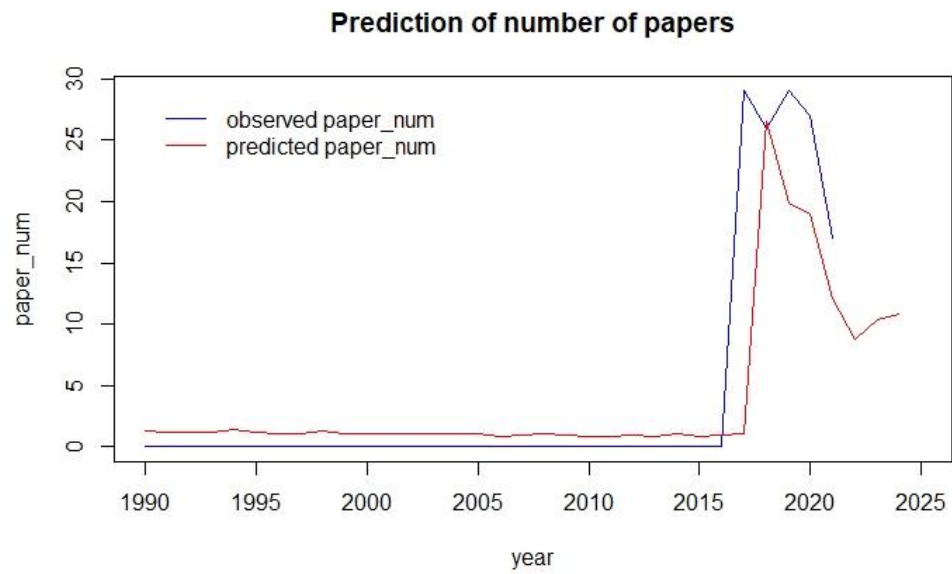


10) Disordered Proteins as Drug Targets

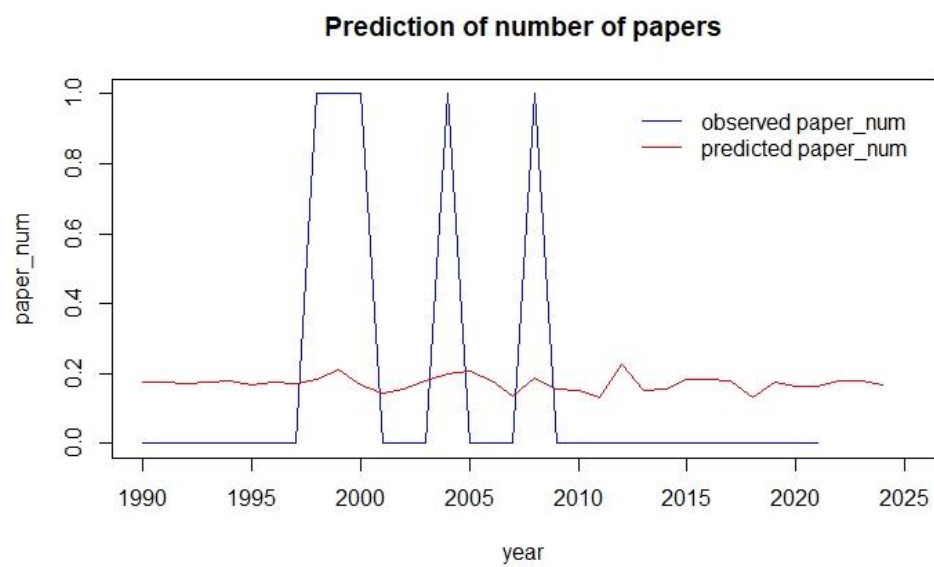
Prediction of number of papers



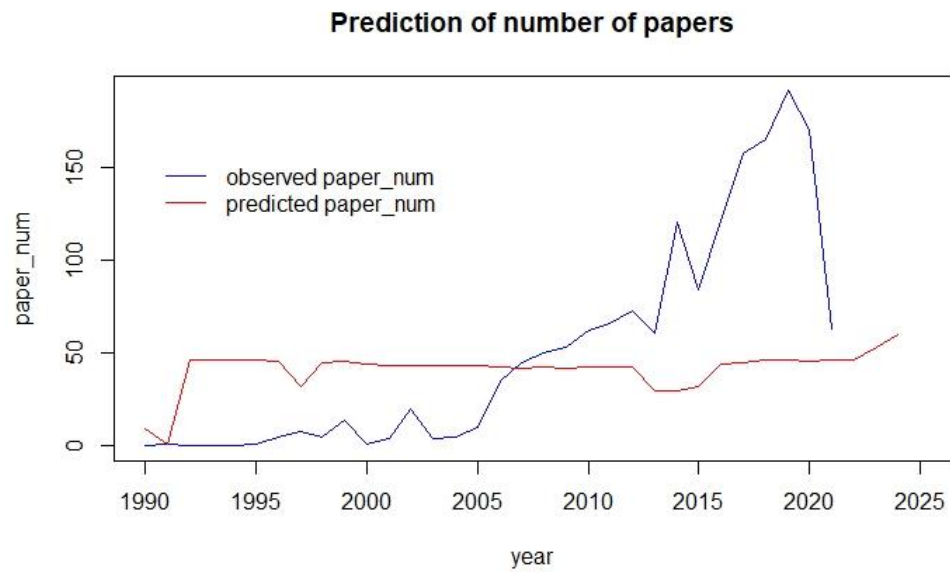
11) DNA Data for Storage



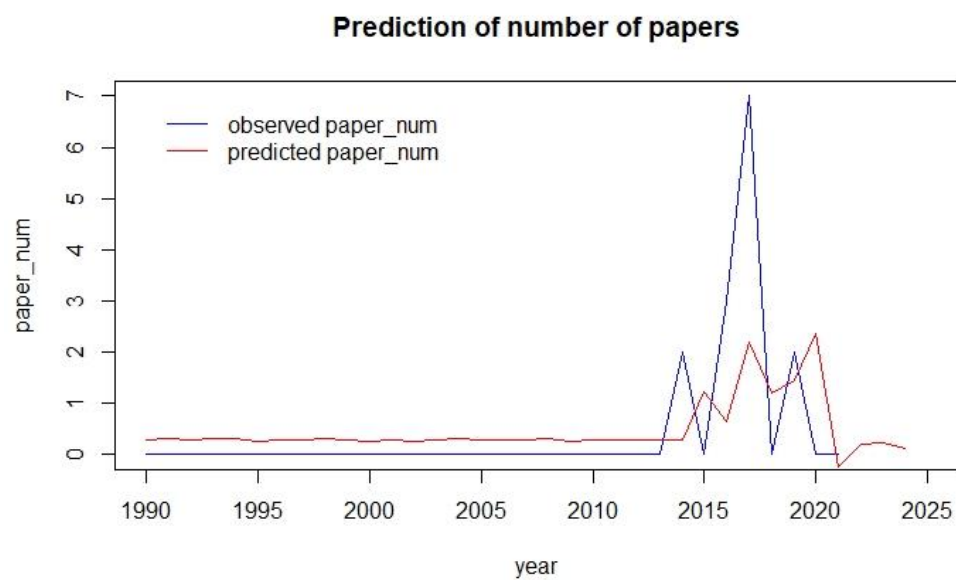
12) Implantable drug-making cells



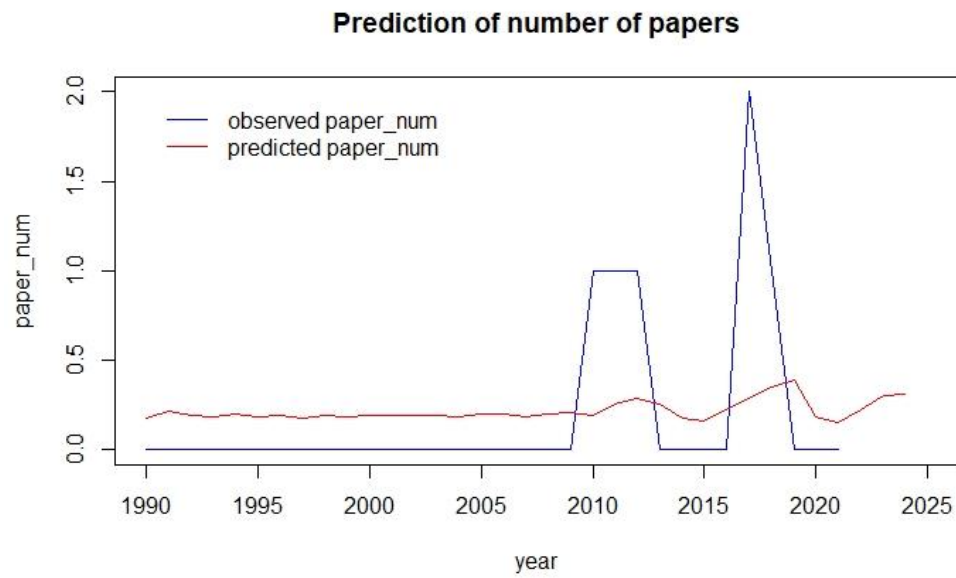
13) Electric Aviation



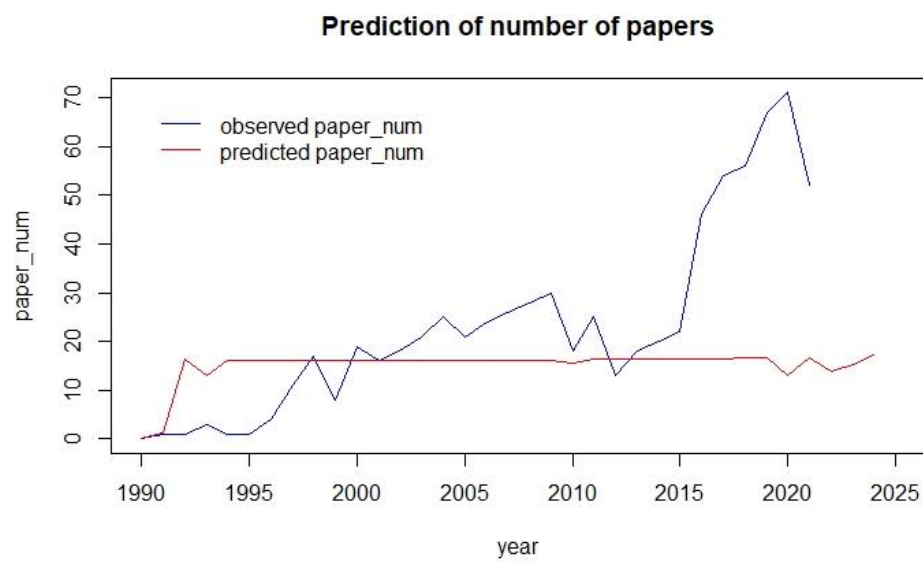
14) Electroceuticals



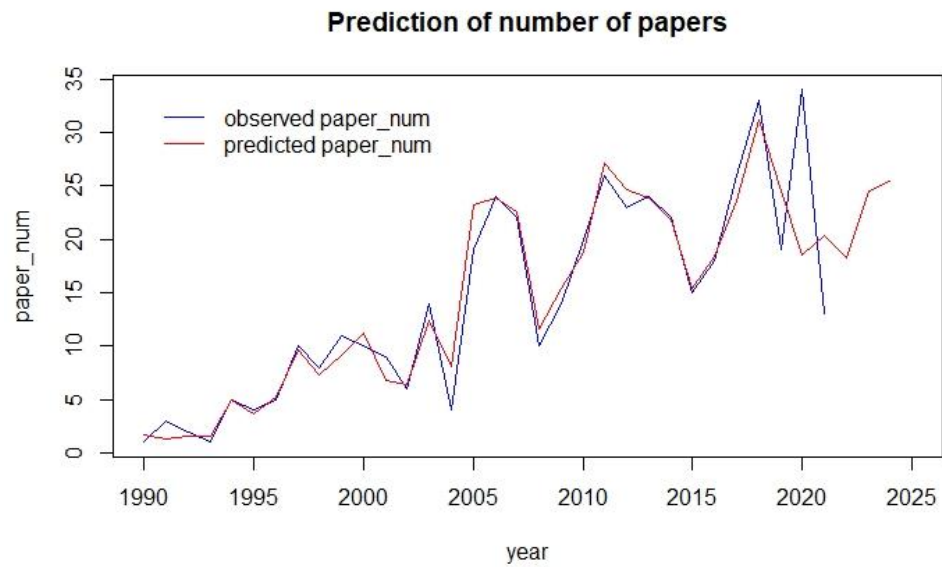
15) Advanced Food Tracking and Packaging



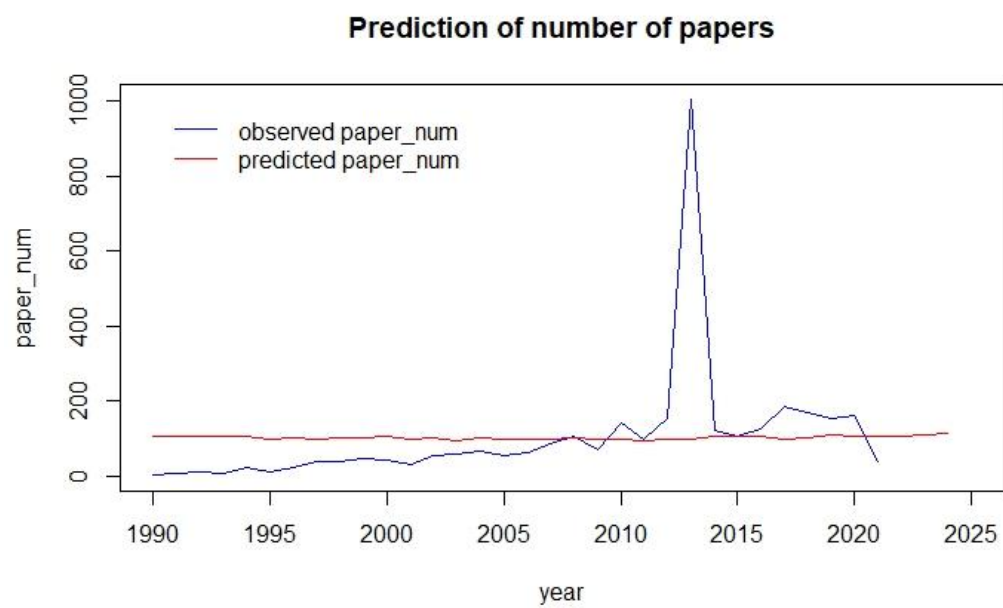
16) Gene drive



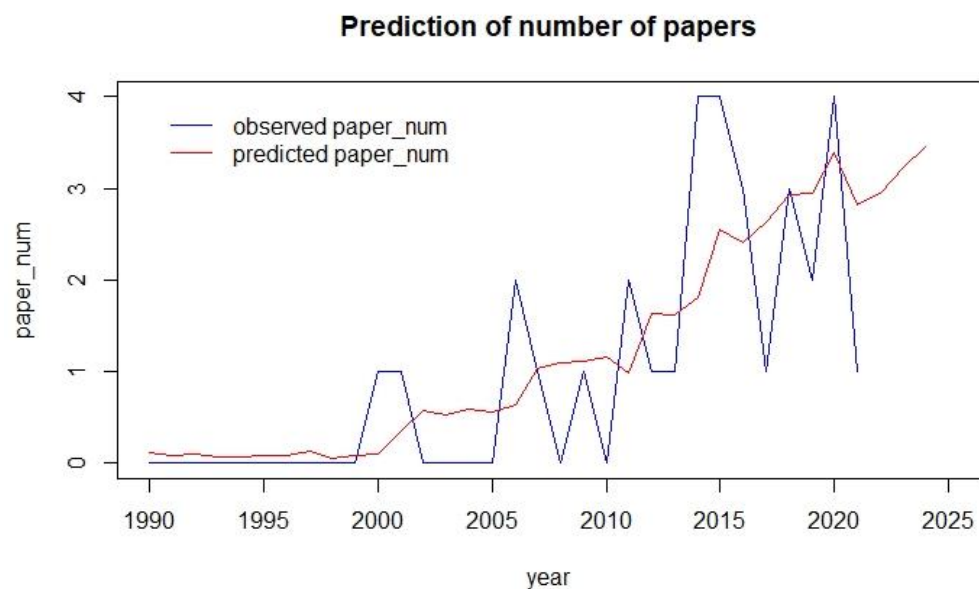
17) Green ammonia



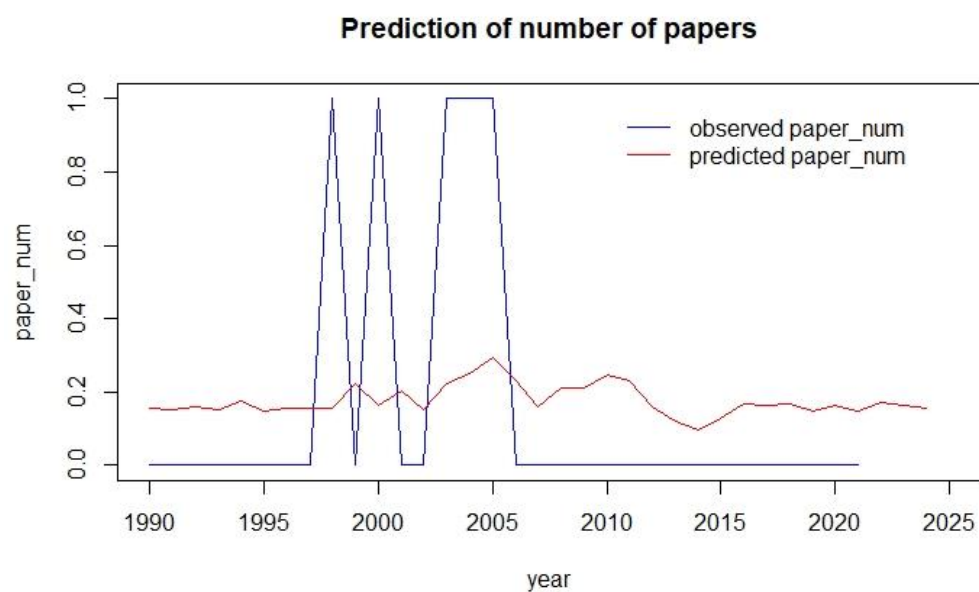
18) Green Hydrogen



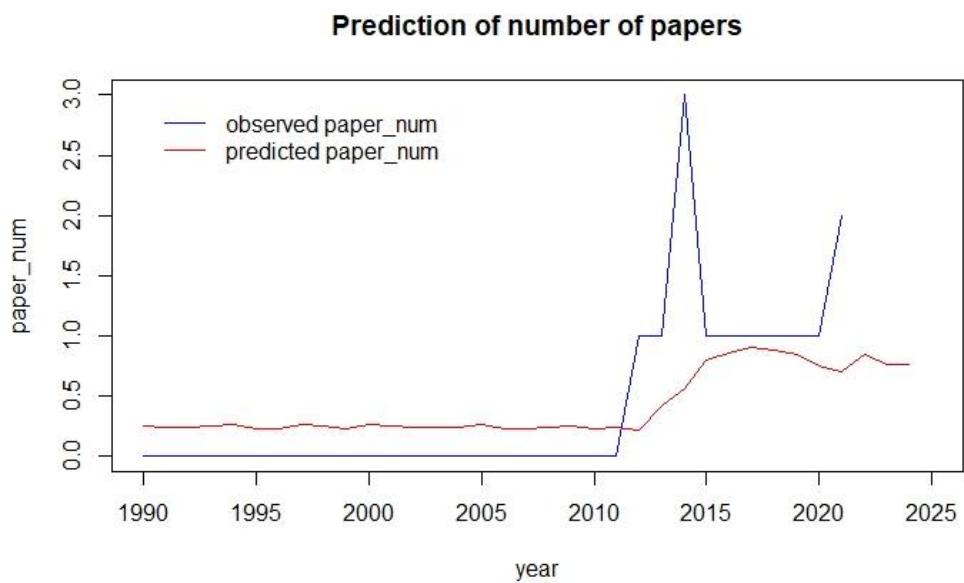
19) Lower-Carbon Cement



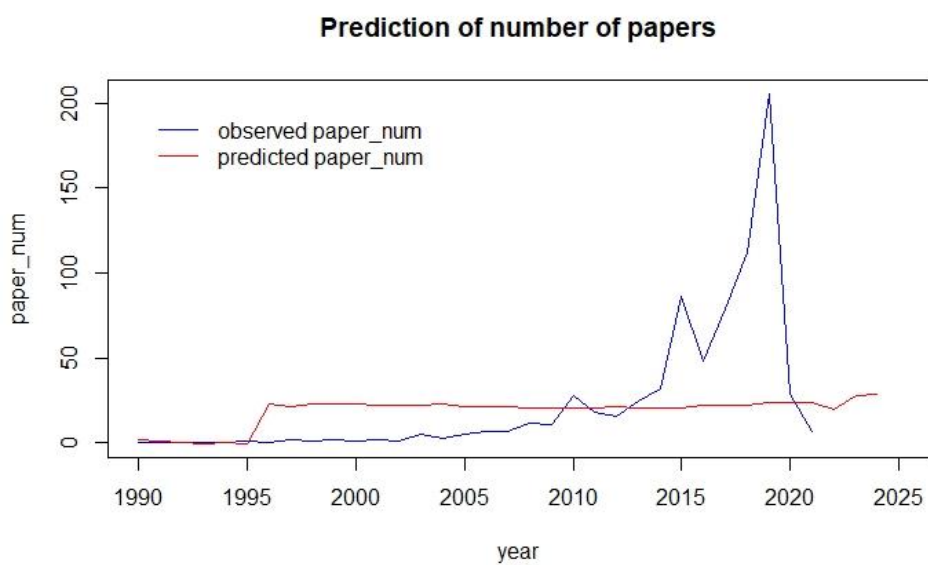
20) Microneedles for Painless Injections and Tests



21) On-demand drug manufacturing

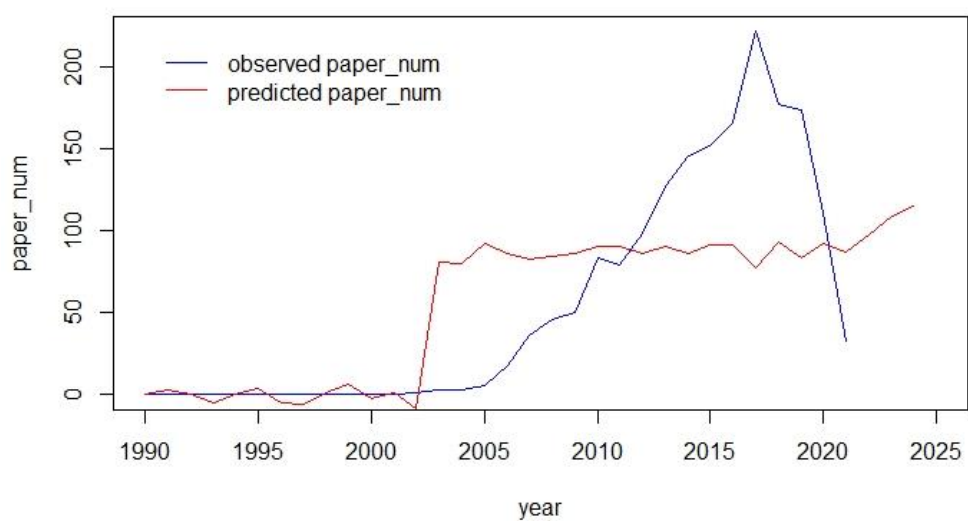


22) Personalized medicine



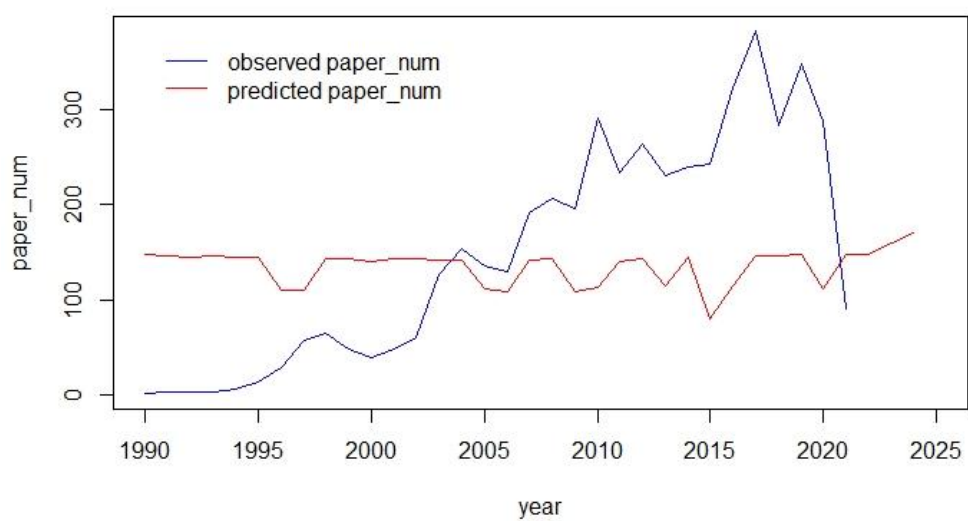
23) Plasmonic materials

Prediction of number of papers (Plasmonic materials)



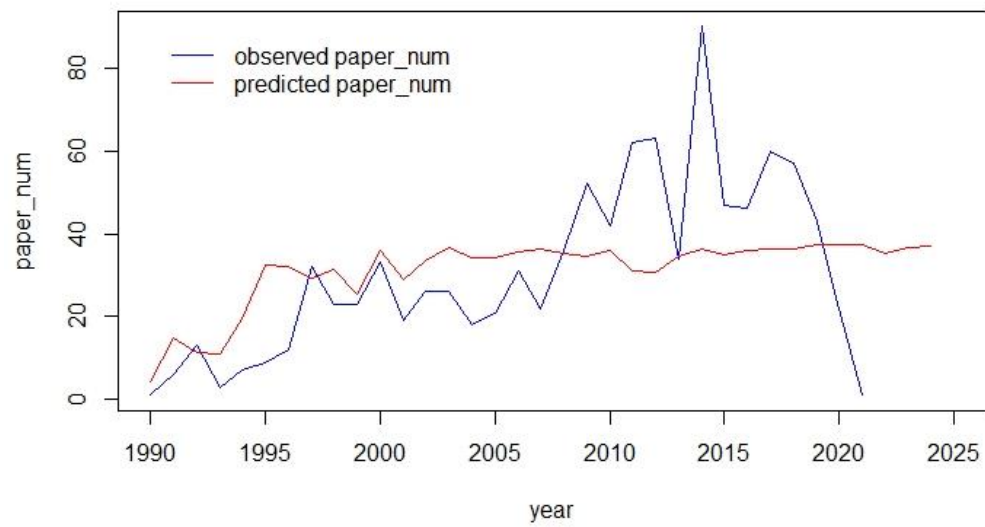
24) Quantum Sensing

Prediction of number of papers



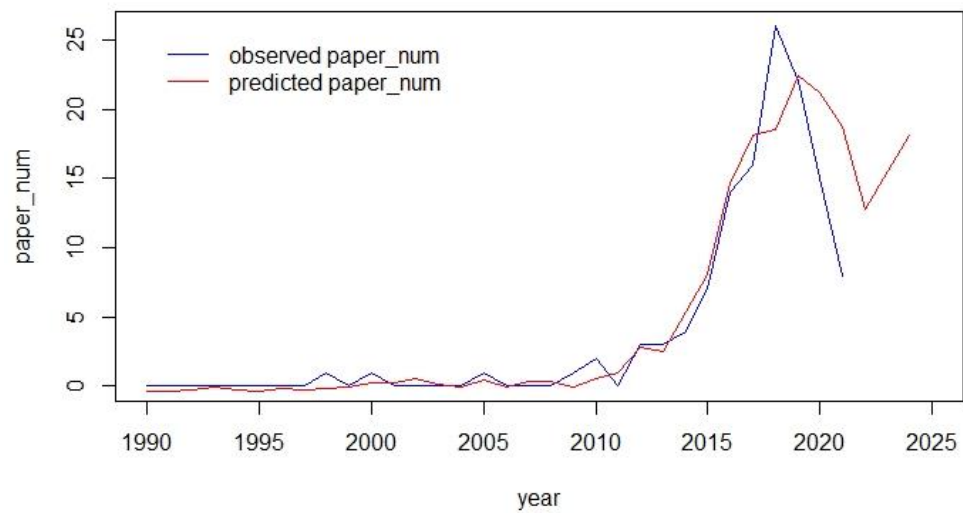
25) Safer Nuclear Reactors

Prediction of number of papers



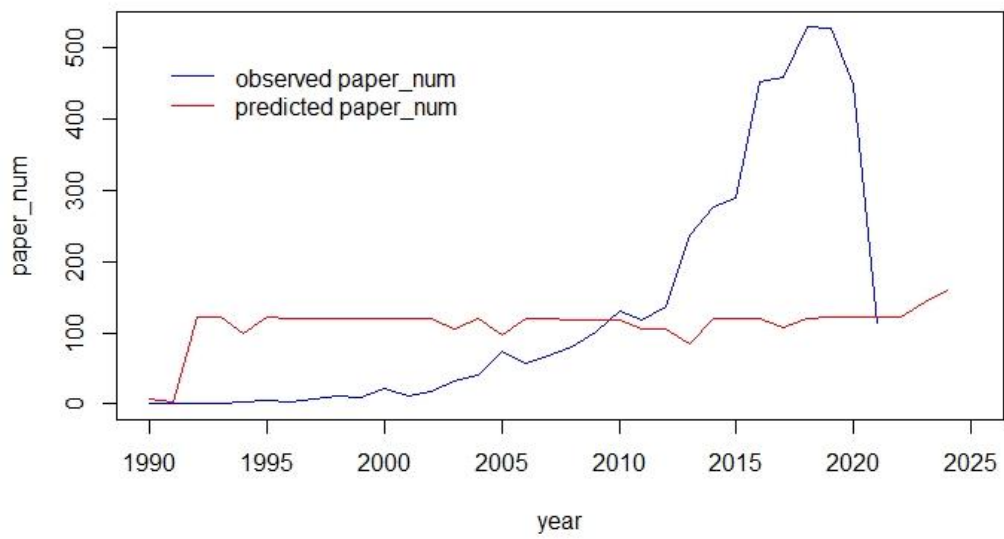
26) Smarter Fertilizers Can Reduce Environmental Contamination

Prediction of number of papers



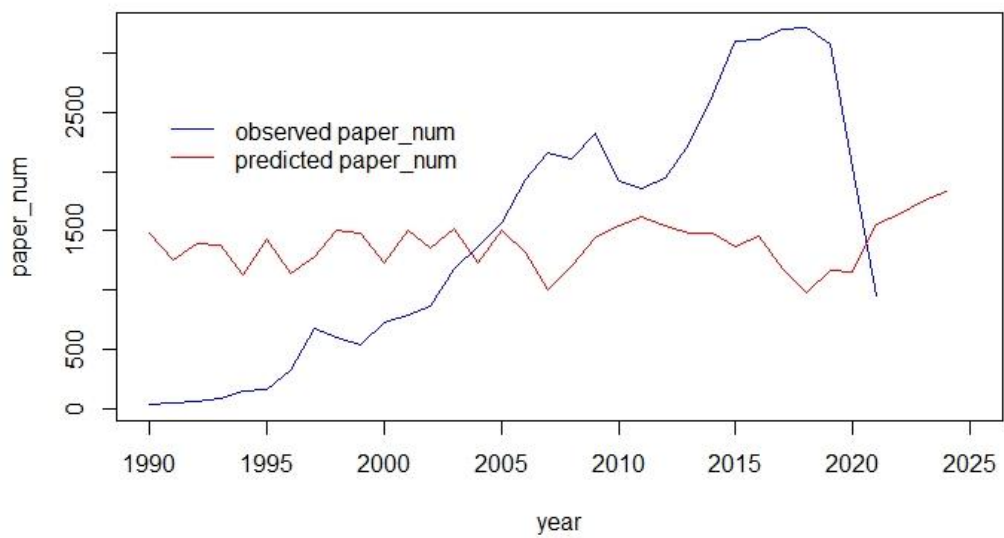
27) Social Robots

Prediction of number of papers (Social Robots)

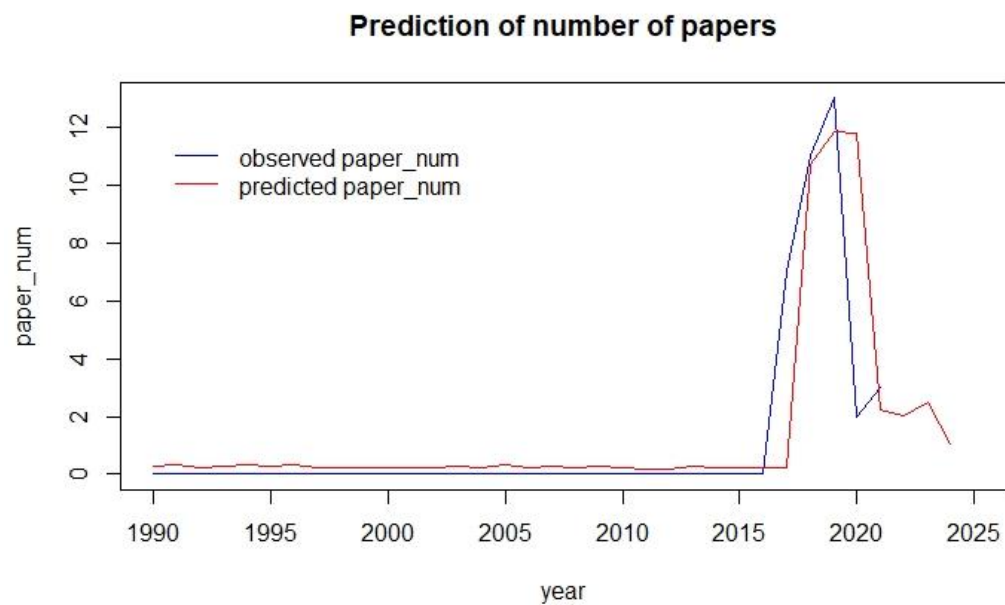


28) Spatial Computing

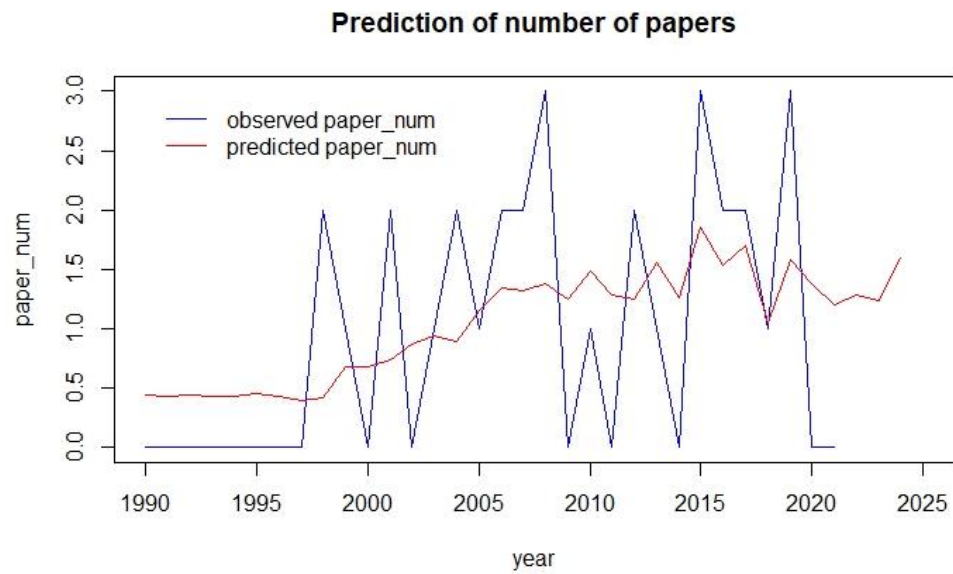
Prediction of number of papers (Spatial Computing)



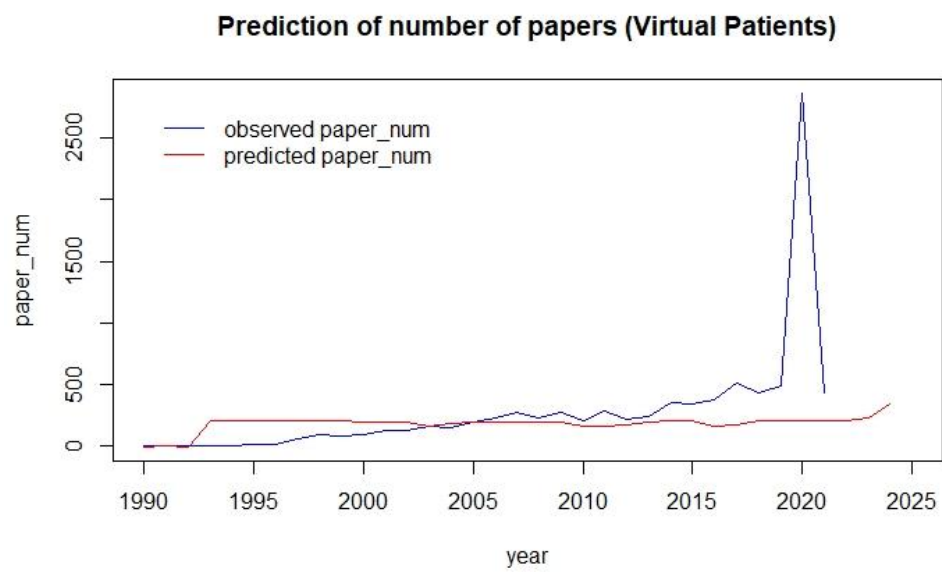
29) Utility-Scale Storage of Renewable Energy



30) Tiny Lenses for Miniature Devices



31) Virtual Patients



32) Whole-Genome Synthesis

