

LU11.A02 pgvector

Wie es der Zufall so will, gibt es eine Erweiterung für PostgreSQL namens pgvector, die eine Vektordatenbank ermöglicht.

Installieren Sie die Erweiterung für PostgreSQL 17 folgendermassen:

- https://github.com/andreiramani/pgvector_pgsql_windows/releases/tag/0.8.1_17.6 runterladen und readme.txt lesen
- Im korrekten Verzeichnis entpacken

- `psql -U postgres`

- `CREATE EXTENSION vector;`

- `SELECT extname,extrelocatable,extversion FROM pg_extension where extname='vector';`

- `CREATE TABLE documents (
 id SERIAL PRIMARY KEY,
 content TEXT,
 embedding vector(384) -- number of dimensions
);`

- `INSERT INTO documents (content, embedding) VALUES
(
 'Der Hund läuft durch den Park.',
 '[-0.015902026,0.05760266,0.107075155,-0.0519569,0.04090412,0.063455336
,0.069191605,0.051044736,0.006737726,-0.01214657,-0.013535015,-0.019056
423,-0.032045193,-0.13006032,0.016757274,-0.004476108,-0.0952798,0.1014
4993,0.09780408,0.01470981,0.019391175,-0.055309564,-0.023545157,-0.019
936983,-0.057729065,0.0421057,-0.06326068,0.018626489,0.009571697,-0.03
0426377,0.054151293,-0.03349272,-0.032791294,-0.02367296,-0.014362127,0
.032164637,0.008929128,-0.10308307,-0.014764295,0.09056183,-0.123820856
,0.022556324,-0.0053615896,-0.0305183,0.015828503,0.0025636808,-0.02910
4356,0.06695222,-0.03501711,-0.04742426,0.07971505,-0.02334719,0.142055
14,-0.020685786,0.023359444,0.006347681,-0.06238359,-0.03436055,0.03463
755,-0.036575176,-0.0034707799,-0.038640074,-0.06842277,-0.025703594,-0
.026988173,-0.10568396,0.04725269,-0.020664569,0.009366303,0.05374474,0
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69,-0.041941334,0.006077247,-0.032531682,-0.1456292,0.02550352,0.008206
464,0.0026944191,0.024708213,0.087934785,-0.04525851,0.019175258,-0.005
2121957,0.013333252,-0.022167822,-0.049465273,-0.02222302,-0.114417635,
0.022167044,-0.016609527,-0.00060269673,-0.003967489,0.043371897,-0.007
85732,0.04760869,0.017513938,0.08043419,-0.039619524,0.038543053,-0.031
57974,-0.083687104,-0.02696411,0.009527292,0.012456736,0.013845288,-0.0
047107064,-0.025274066,0.03858401,0.03237137,0.0015916632,-0.026889147,
-0.02380971,-0.15585561,-0.0432662,-0.029026372,0.03444843,0.026414542,`

```
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),
(
  'Eine Katze schläft auf dem warmen Sofa.',
  '[-0.007109721,-0.0012636421,0.026766846,0.012819621,0.043071654,0.0792
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66997655, -0.025262048, 0.080832675, -0.027363164, 0.039069086, 0.05649752, 0.04224766, 0.05409327, -0.0442604, 0.07631905, -0.023685139, -0.011432643, -0.057219494, -0.00047557708, 0.07795495, 0.032833274, -0.0021146084, 0.039287873, -1.9626652e-08, -0.009475374, -0.053274162, -0.055274833, 0.06361991, 0.07910111, -0.17217484, -0.090310946, -0.06705612, -0.060435694, -0.041230883, -0.013782844, 0.0096473945, -0.011305571, 0.099291466, 0.04176543, 0.091747224, -0.087833494, 0.032089613, -0.01484136, -0.04616804, 0.039674077, -0.049184702, -0.0017470097, -0.06762189, 0.0204311, -0.032336604, 0.00151831, 0.012680851, -0.011514795, -0.027736217, -0.08925785, 0.046010647, -0.072444126, 0.01594395, 0.043229405, -0.021536356, -0.023562418, 0.0013237074, -0.027282983, 0.021109229, 0.024281958, 0.04329861, -0.0051210304, -0.12128472, -0.0022485289, -0.03938641, -0.0028802075, 0.032415453, 0.07509276, 0.12356085, 0.02271908, 0.052506197, 0.03601245, 0.067394726, -0.015178452, 0.01071139, -0.02103686, -0.0059086145, 0.050515737, -0.023933707, 0.047121376, 0.056607913, 0.02156276, 0.03161785] '
),
(
    'Programmierung in Java macht Spaß.',
    '[-0.043199744, 0.09148949, -0.029067023, -0.06481709, -0.0311841, 0.0073619215, 0.051010933, 0.12620015, -0.09678382, -0.060969703, -0.042856723, -0.046706, 0.05544092, -0.060114734, -0.00836417, -0.074299425, -0.03463477, 0.036453933, 0.013771827, -0.06727395, 0.01024464, -0.06941216, -0.022414654, -0.035051163, 0.009672586, 0.061972737, 0.039283082, -0.018595783, 0.0015757851, -0.0065638525, 0.01643965, -0.011278945, 0.06483684, 0.049729783, 0.012437139, 0.06817763, -0.03446645, -0.020716297, -0.028256316, 0.03619061, -0.15856735, 0.034263678, -0.050924677, -0.019099634, 0.030307252, -0.03753782, -0.06046897, -0.017386938, -0.033569343, -0.013553138, -0.123852044, -0.070727564, 0.015693504, -0.10495245, 0.019725902, -0.028855532, 0.08421999, 0.054797176, -0.032417994, -0.06807971, -0.0042420872, -0.031062094, -0.11073772, 0.024375893, 0.0011726405, -0.0791234, 0.06756717, 0.013735893, 0.061020296, -0.05175079, -0.036201973, -0.0072627794, -0.041609887, 0.06854787, -0.11765699, 0.011322833, -0.0022854141, 0.032128565, 0.00072450977, -0.060432363, 0.018627977, 0.013942829, -0.05643342, 0.059503593, 0.003444116, 0.0333178, 0.0038088744, 0.003608918, 0.104643136, 0.107927516, -0.003259363, -0.038505763, -0.055448446, 0.026781958, -0.07017709, 0.020072648, 0.015946819, -0.00507406, -0.00025913666, 0.07487487, -0.027873257, -0.018572668, 0.08420072, 0.00026179242, 0.018718606, -0.06249499, -0.008756472, -0.011860059, 0.062050622, -0.05795504, -0.0037953006, -0.062763505, -0.0036034144, -0.049373556, 0.053317714, 0.052781623, 0.056375057, 0.012969441, -0.026805436, 0.036944233, 0.0750596, 0.025857126, 0.00067704014, 0.009160451, -0.02921264, 0.011729357, -0.027095947, -1.45807135e-33, -0.019052722, -0.15279838, -0.013425207, 0.04359884, -0.056741316, -0.034728773, -0.0060269493, 0.076329775, -0.019702783, -0.03206247, 0.023045592, -0.029590433, 0.012854884, 0.035741143, 0.095244706, -0.08112456, 0.028272616, 0.016245343, -0.077332415, -0.069537684, 0.05222033, -0.01879696, 0.018304689, 0.025418874, 0.030933425, 0.0011363681, 0.07403793, -0.038825825, 0.02319155, 0.058293328, 0.036435634, -0.04898838, -0.09559844, 0.086611435, 0.016126338, -0.023224672, 0.024320835, 0.008943432, 0.0899699, -0.07359543, -0.01976067, -0.061974544, 0.039143473, -0.053590316, 0.06344621, -0.017541748, -0.035693333, 0.041907027, -0.010939826, 0.038936418, 0.016326785, 0.049230784, 0.06424195, 0.032906126, -0.012862958, 0.044547018, 0.00377
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