**Annex**

Table 1. Presence of terms extracted from AI Stack Exchange in the job advertisements recruiting for various IT roles (2022).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | software developer | information and communications technology service managers | electronics engineers | applications programmers | web and multimedia developers | graphic and multimedia designers | information technology trainers | telecommunications engineering technicians | electronics mechanics and servicers | information and communications technology installers and servicers |
| Machine Learning | 2.21% | 0.66% | 1.69% | 0.98% | 1.49% | 0.56% | 0.03% | 0.06% | 0.06% | 0.05% |
| Computer Vision | 0.35% | 0.05% | 0.51% | 0.26% | 0.18% | 0.19% | 0.02% | 0.00% | 0.00% | 0.02% |
| Deep Learning | 0.28% | 0.06% | 0.42% | 0.16% | 0.18% | 0.47% | 0.02% | 0.00% | 0.02% | 0.01% |
| Image Processing | 0.21% | 0.02% | 0.24% | 0.15% | 0.12% | 0.28% | 0.00% | 0.00% | 0.00% | 0.00% |
| Natural Language Processing | 0.11% | 0.02% | 0.11% | 0.02% | 0.07% | 0.08% | 0.00% | 0.00% | 0.02% | 0.00% |
| Autonomous Vehicles | 0.06% | 0.02% | 0.20% | 0.16% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | 0.01% |
| Reinforcement Learning | 0.02% | 0.00% | 0.01% | 0.01% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Natural Language Understanding | 0.02% | 0.00% | 0.09% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Speech Recognition | 0.01% | 0.00% | 0.03% | 0.01% | 0.02% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Image Recognition | 0.01% | 0.00% | 0.01% | 0.04% | 0.05% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Computational Linguistics | 0.01% | 0.00% | 0.01% | 0.00% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Supervised Learning | 0.01% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Transfer Learning | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Sentiment Analysis | 0.00% | 0.00% | 0.02% | 0.00% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Convolutional Neural Networks | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Machine Translation | 0.00% | 0.01% | 0.03% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Artificial Neural Networks | 0.00% | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Image Segmentation | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Feature Engineering | 0.00% | 0.00% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Facial Recognition | 0.00% | 0.00% | 0.00% | 0.03% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Feature Extraction | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Expert Systems | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Unsupervised Learning | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Fuzzy Logic | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Object Recognition | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% |
| Face Detection | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Pose Estimation | 0.00% | 0.00% | 0.02% | 0.00% | 0.00% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| Natural Language Generation | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Feature Selection | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Training Datasets | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Perceptron | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Artificial General Intelligence | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Path Finding | 0.00% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Dimensionality Reduction | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Intelligent Agent | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Automated Machine Learning | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Test Datasets | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Gaussian Process | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Markov Chain | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Naive Bayes | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Autoencoders | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Gradient Boosting | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Hyperparameter Optimization | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Support Vector Machine | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Collaborative Filtering | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Latent Dirichlet Allocation | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Confusion Matrix | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Feature Learning | 0.00% | 0.00% | 0.00% | 0.00% | 0.01% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Genetic Algorithm | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Hidden Markov Model | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Meta Learning | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| OpenAI Gym | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Seq2Seq | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Word Embedding | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

Source: WIH-OJA NLP OCCUPATION Released on 2023/12/01

Table 2. List of terms extracted from AI Stack Exchange and present in more than 1% of the job advertisements recruiting for various IT roles (2022).

|  |
| --- |
| applications |
| attention |
| automation |
| business |
| c |
| cv |
| design |
| education |
| efficiency |
| features |
| ga |
| go |
| google |
| gym |
| healthcare |
| intelligence |
| legal |
| models |
| open source |
| philosophy |
| policies |
| problem solving |
| research |
| robots |
| safety |
| software development |
| training |
| variational inference |
| vc dimension |
| vc theory |
| vector semantics |
| vision transformer |
| visual place recognition |
| wake sleep algorithm |
| wasserstein gan |
| wasserstein metric |
| weak ai |
| weight decay |
| weight normalization |
| weights initialization |
| wgan |
| xor problem |
| youchat |
| zero shot learning |
| zero sum games |

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