



M.EIC PRI 2022/2023 G55

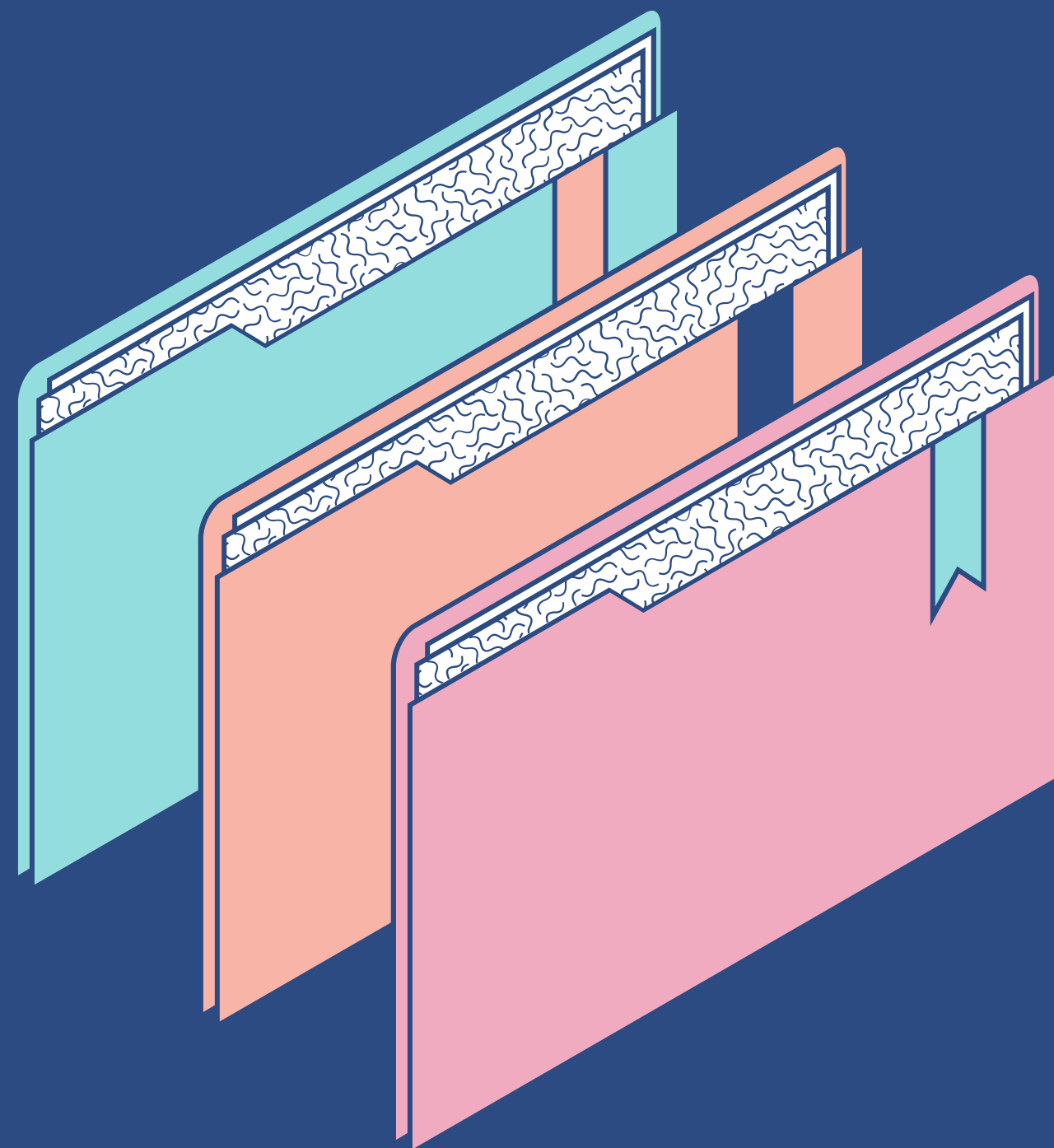
arXiv - Scientific Papers

Scientific Articles Search System

Beatriz Santos, up201905680

Sérgio Estêvão, up201905680

Sérgio da Gama, up201905680

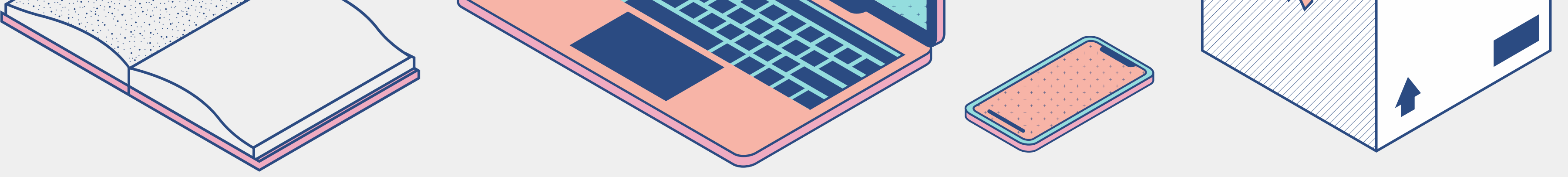


Dataset

kaggle



Collection of scientific papers and
their corresponding information from
the website ARXIV

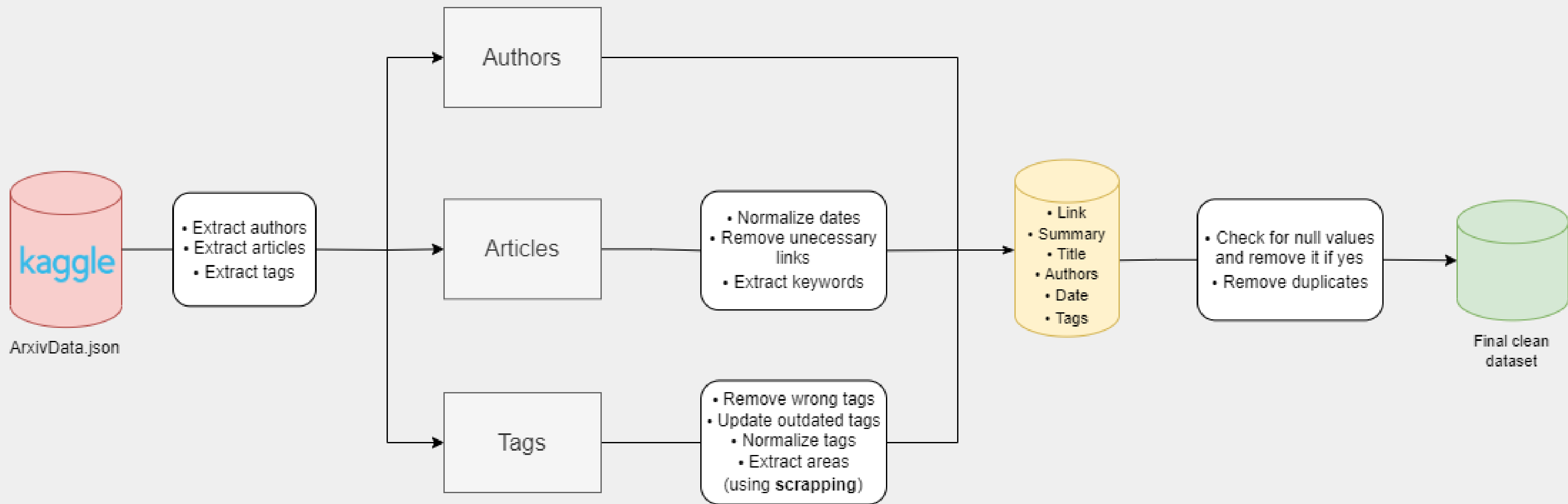


Data Refinement

Cleansing and shaping of the given dataset



Data Refinement





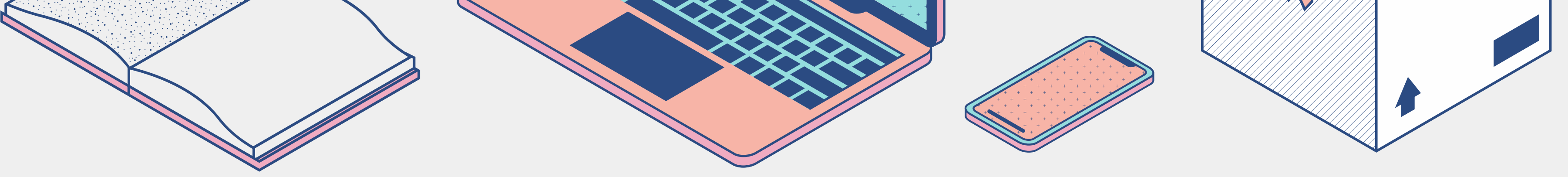
Original dataset

```
{
  "author": "[{'name': 'Iulian Vlad Serban'}, {'name': 'Tim Klinger'}, {'name': 'Gerald Tesauro'}, {'name': 'Kartik Talamadupula'}, {'name': 'Bowen Zhou'}, {'name': 'Yoshua Bengio'}, {'name': 'Aaron C
  "day": 2,
  "id": "1606.00776v2",
  "link": "[{'rel': 'alternate', 'href': 'http://arxiv.org/abs/1606.00776v2', 'type': 'text/html'}, {'rel': 'related', 'href': 'http://arxiv.org/pdf/1606.00776v2', 'type': 'application/pdf', 'title':
  "month": 6,
  "summary": "We introduce the multiresolution recurrent neural network, which extends the\nsequence-to-sequence framework to model natural language generation as two\nparallel discrete stochastic pro
  "tag": "[{'term': 'cs.CL', 'scheme': 'http://arxiv.org/schemas/atom', 'label': None}, {'term': 'cs.AI', 'scheme': 'http://arxiv.org/schemas/atom', 'label': None}, {'term': 'cs.LG', 'scheme': 'http:/
  "title": "Multiresolution Recurrent Neural Networks: An Application to Dialogue\n  Response Generation",
  "year": 2016
},
```

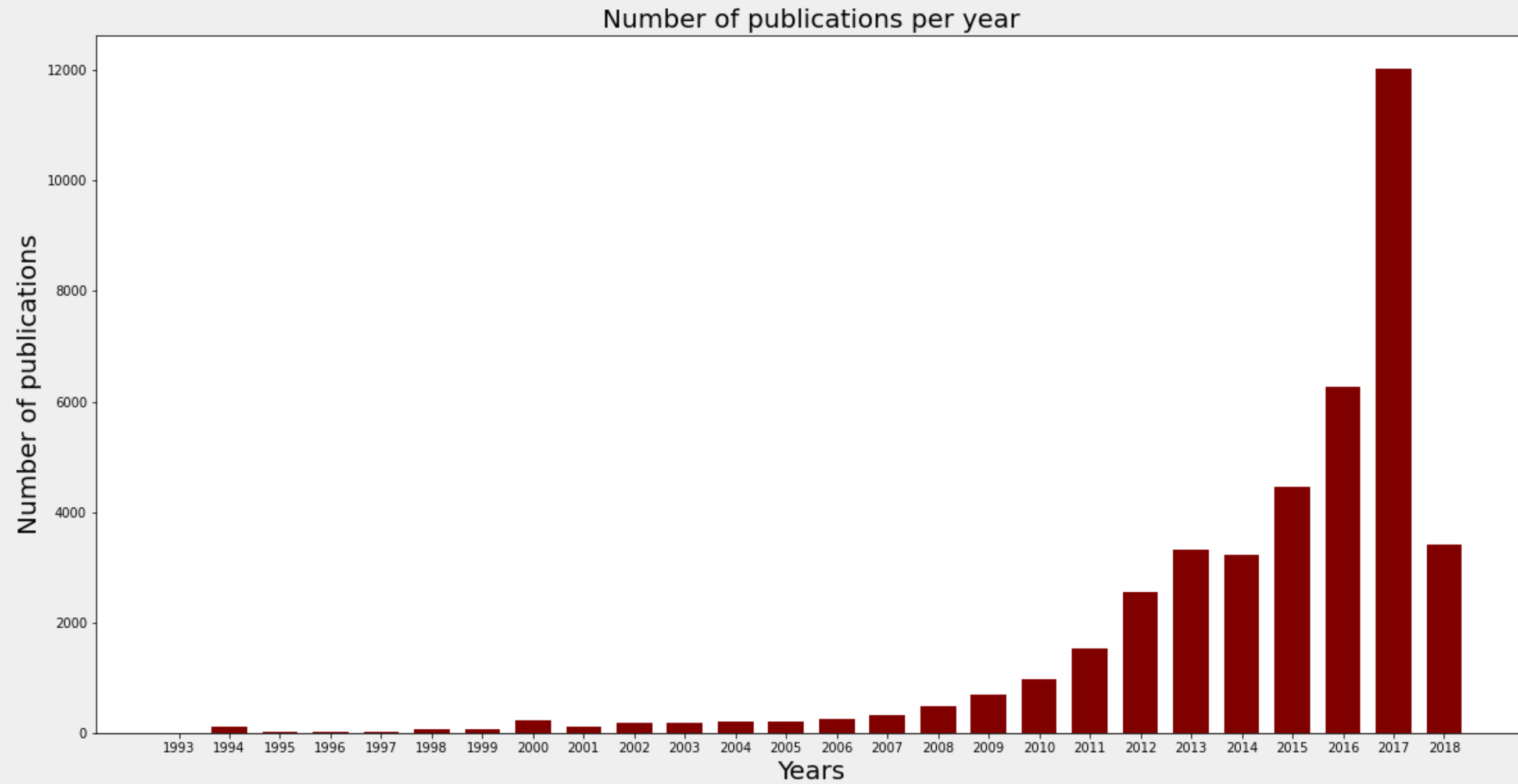


Refined dataset

```
{
  "link": "http://arxiv.org/abs/1604.00289v3",
  "summary": "Recent progress in artificial intelligence (AI) has renewed interest in\nbuilding systems",
  "title": "Building Machines That Learn and Think Like People",
  "authors": [
    "Brenden M. Lake",
    "Tomer D. Ullman",
    "Joshua B. Tenenbaum",
    "Samuel J. Gershman"
  ],
  "date": "2016-4-1",
  "tags": {
    "Computer Science": {
      "Computer Science": [
        "Artificial Intelligence",
        "Computer Vision and Pattern Recognition",
        "Machine Learning",
        "Neural and Evolutionary Computing"
      ]
    },
    "Statistics": {
      "Statistics": [
        "Machine Learning"
      ]
    }
  }
}
```

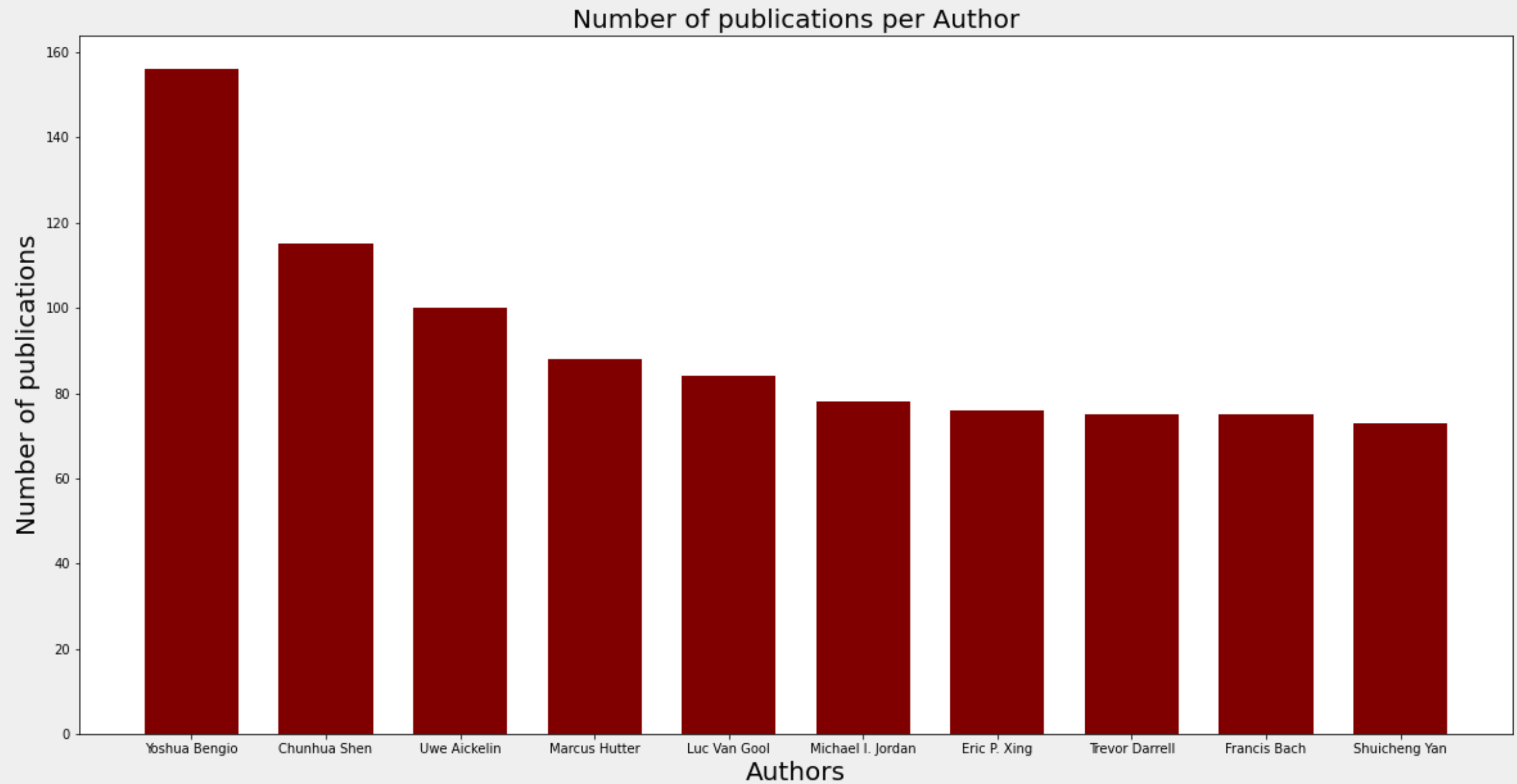


Data Analysis





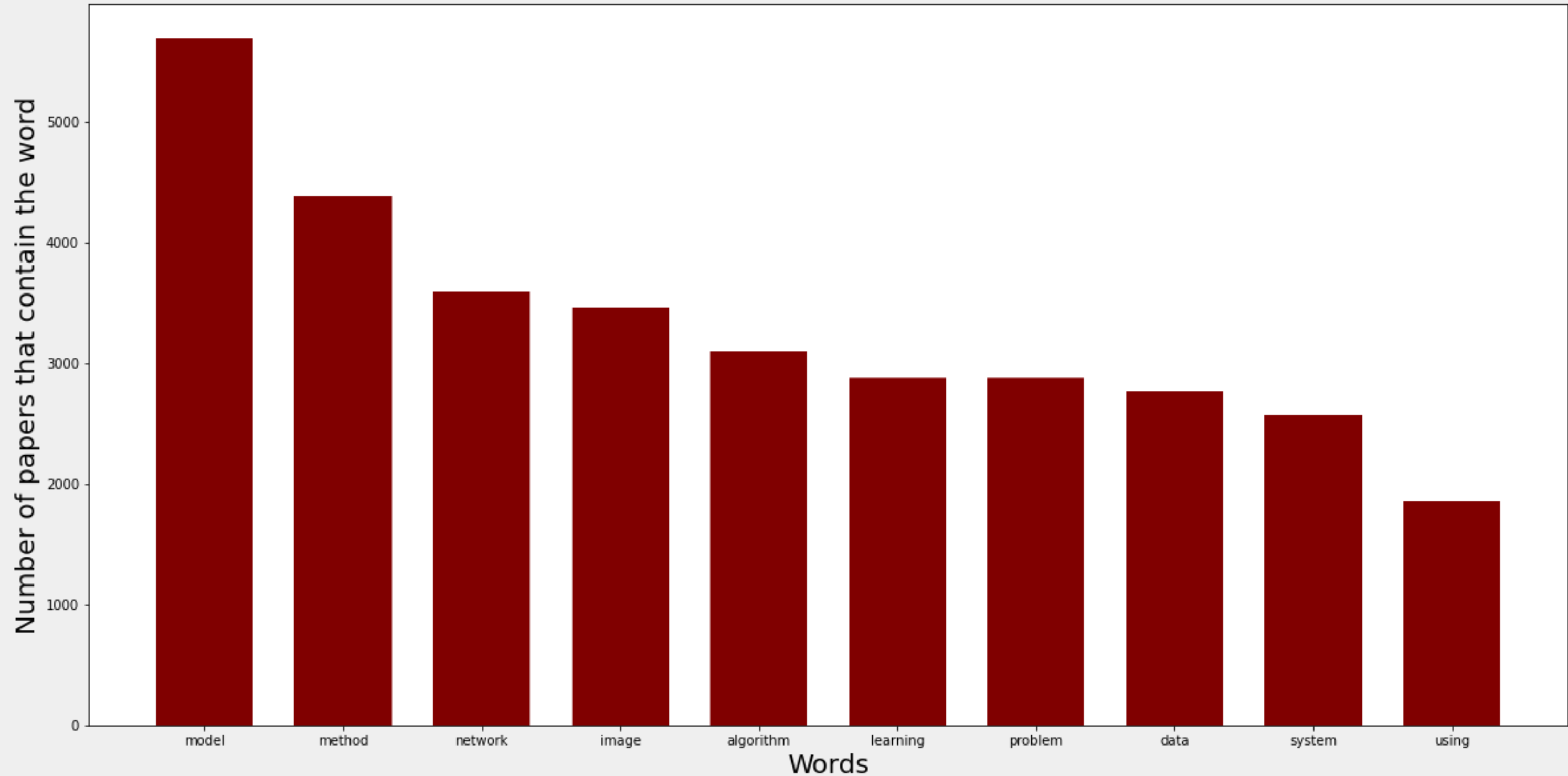
Data Analysis





Data Analysis

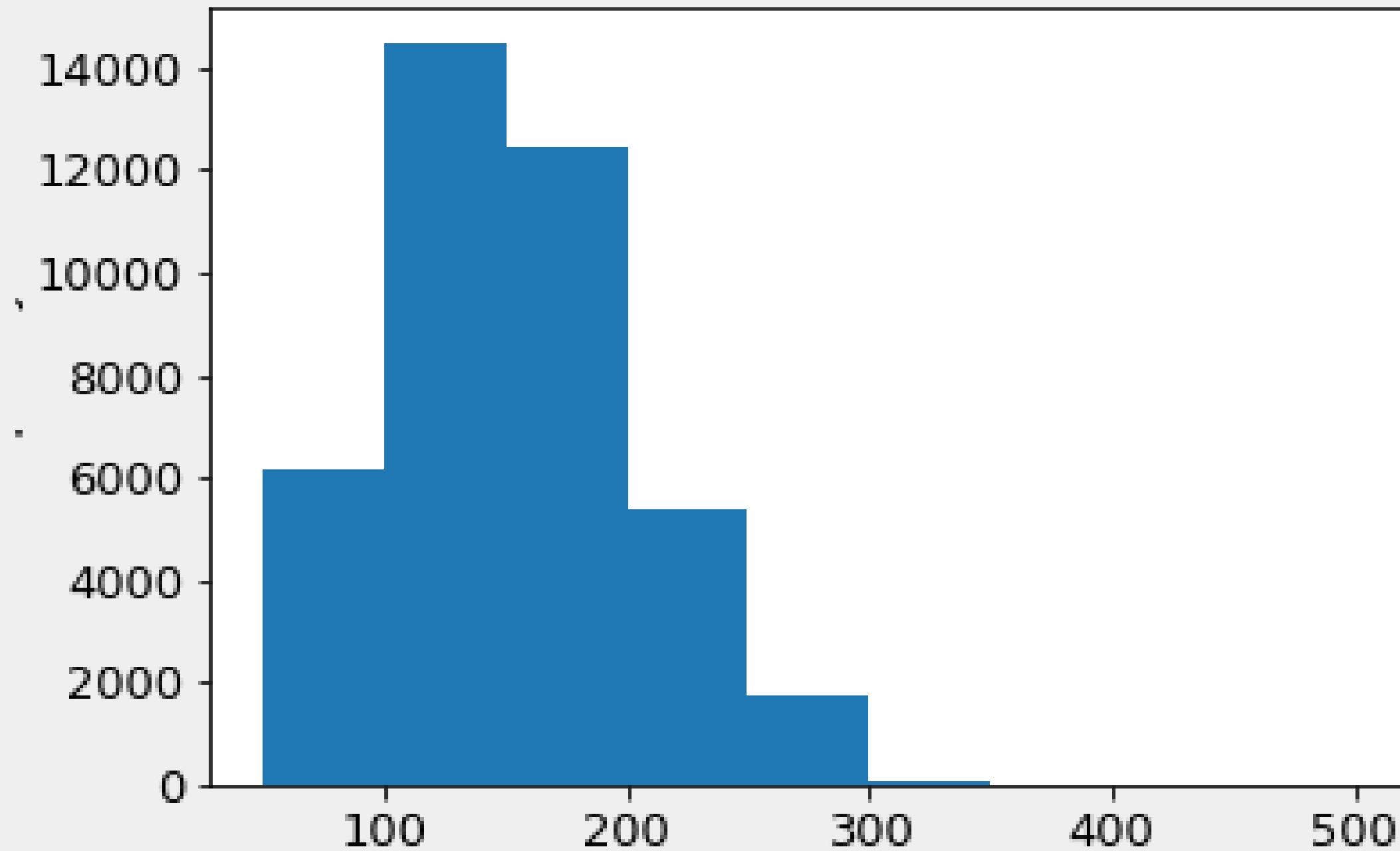
Most common words





Data Analysis

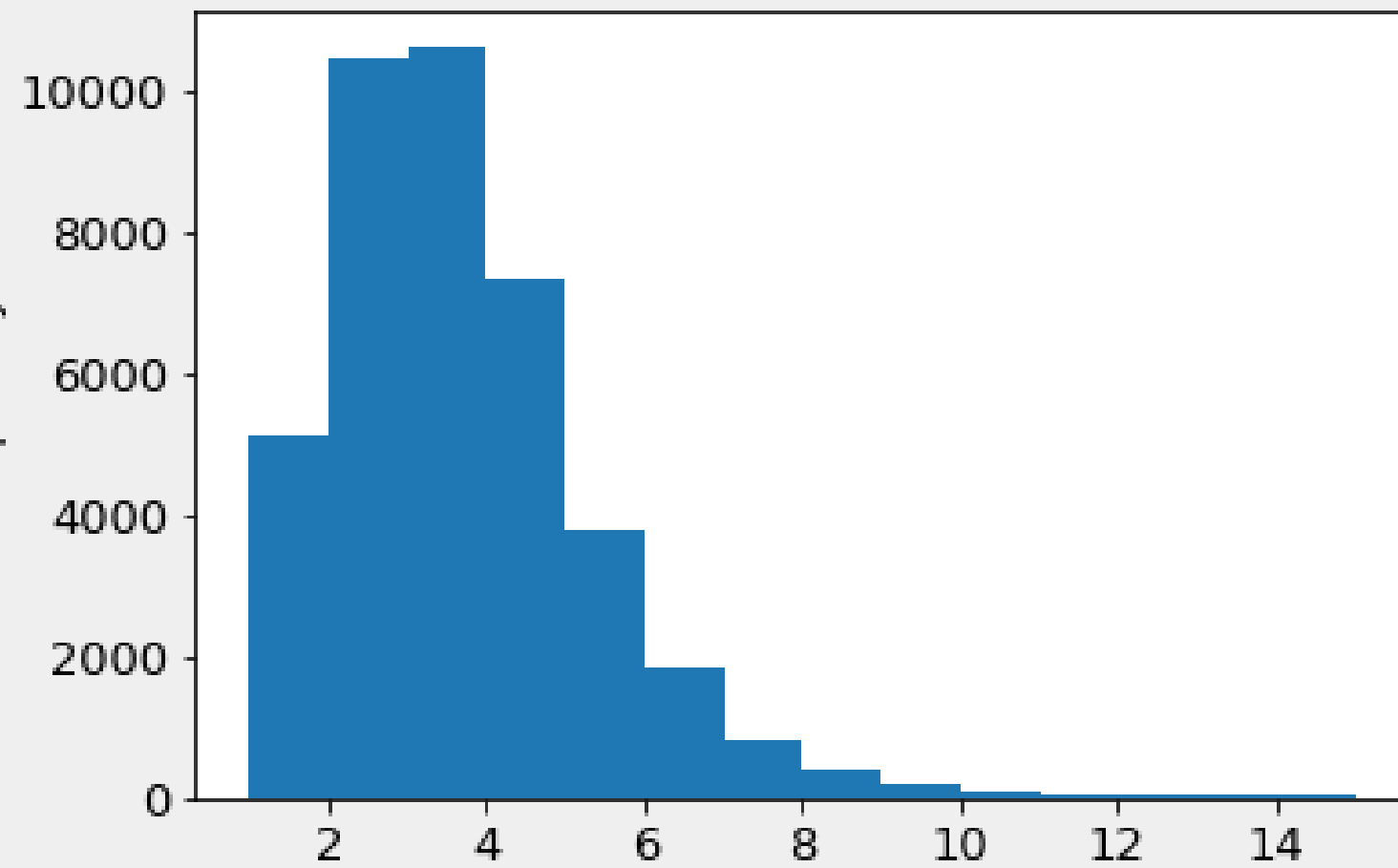
Amount of Words Histogram



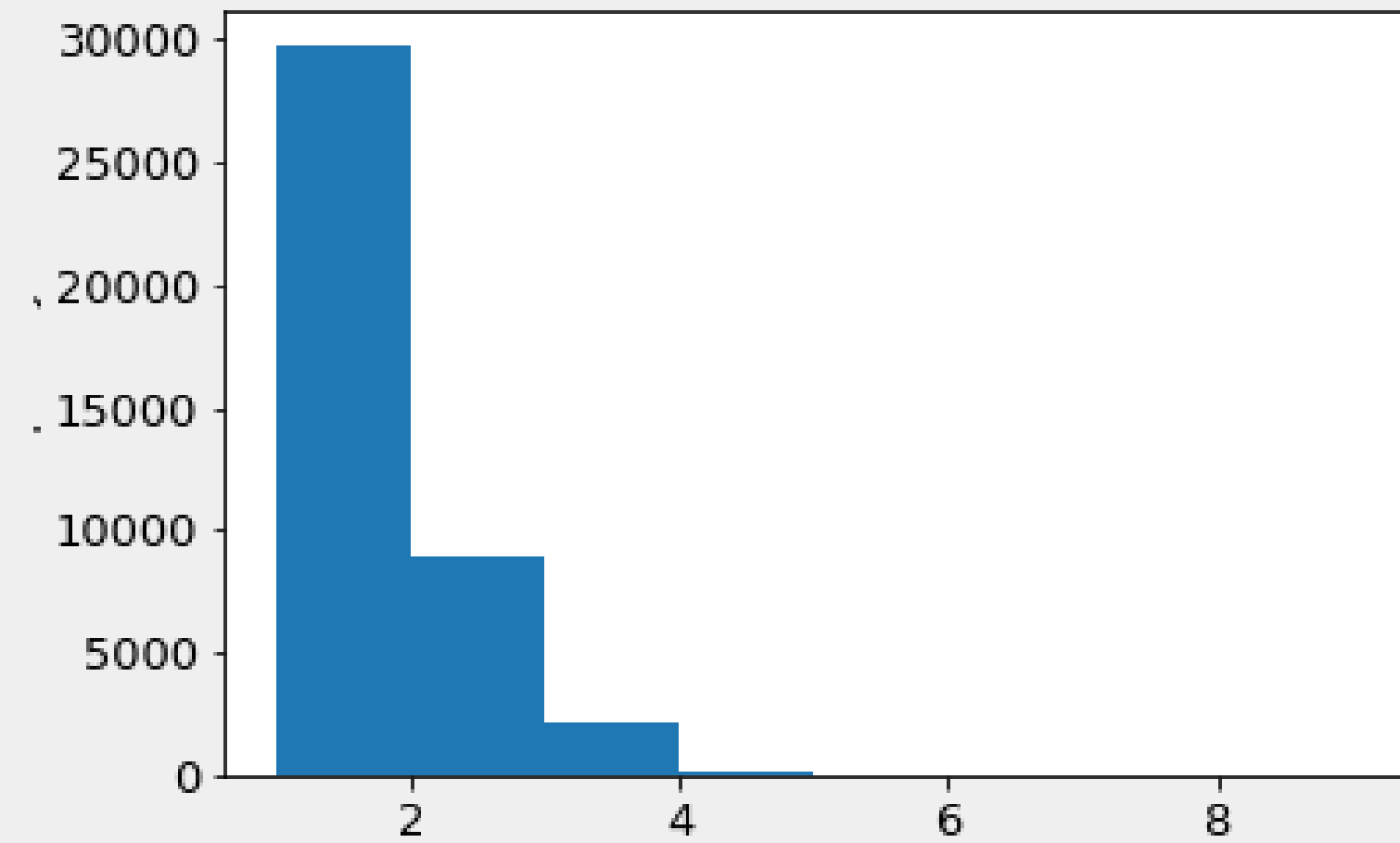


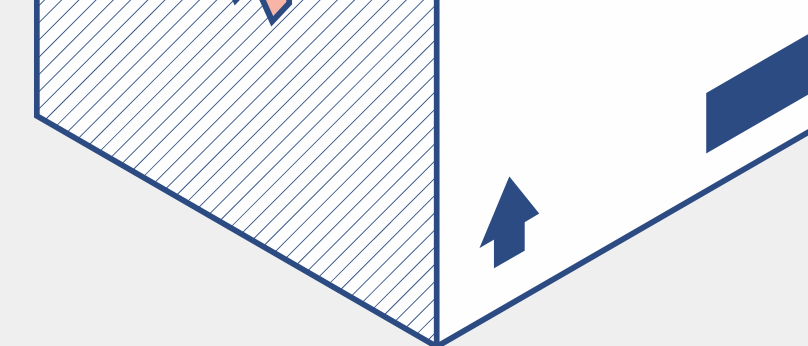
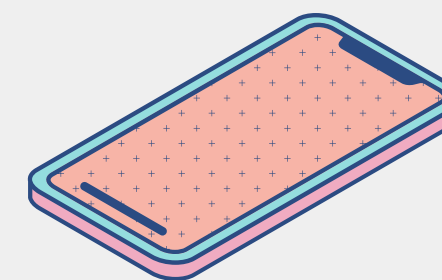
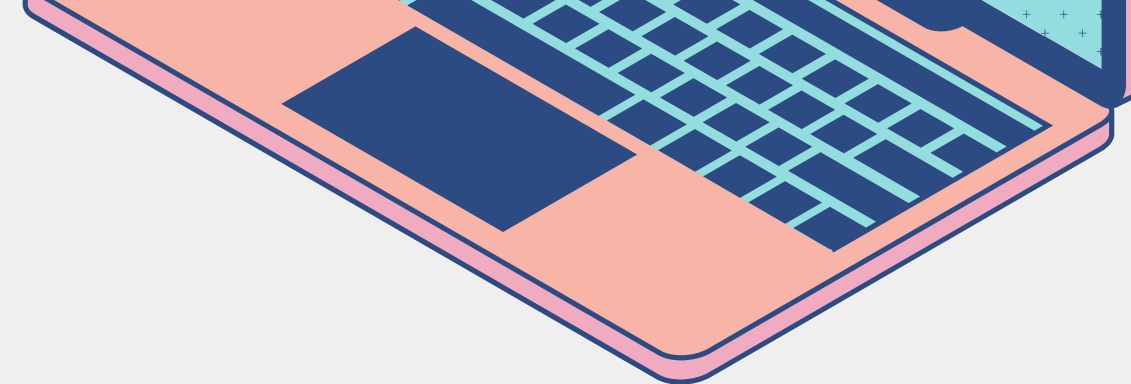
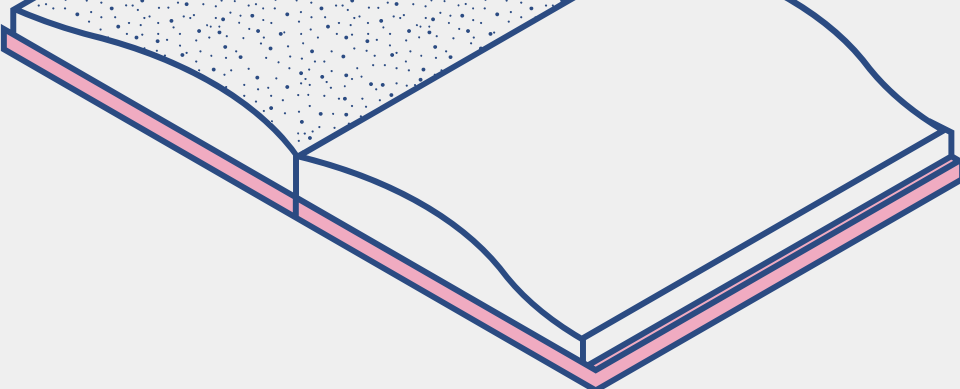
Data Analysis

Amount of Authors Histogram



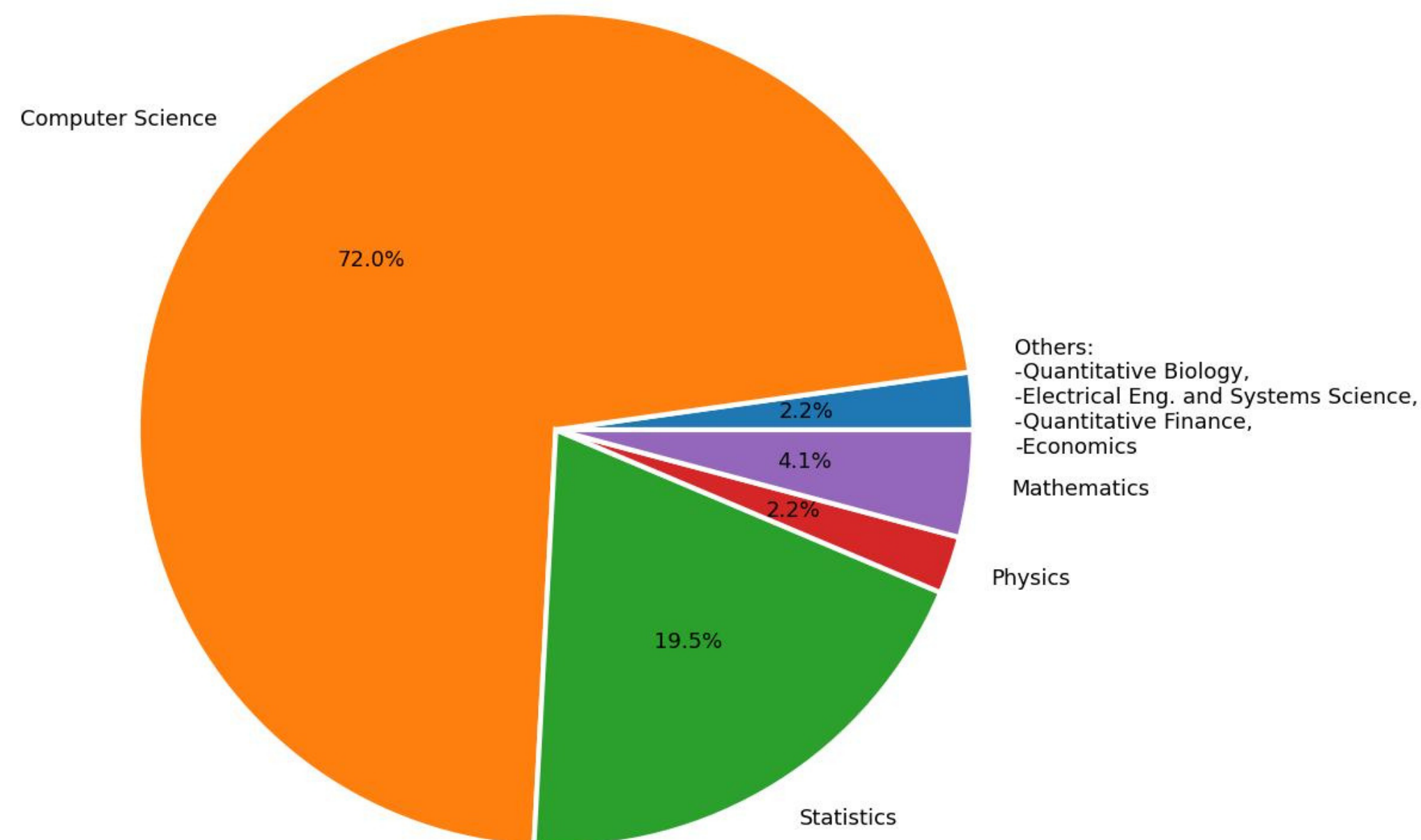
Amount of Subjects Histogram





Data Analysis

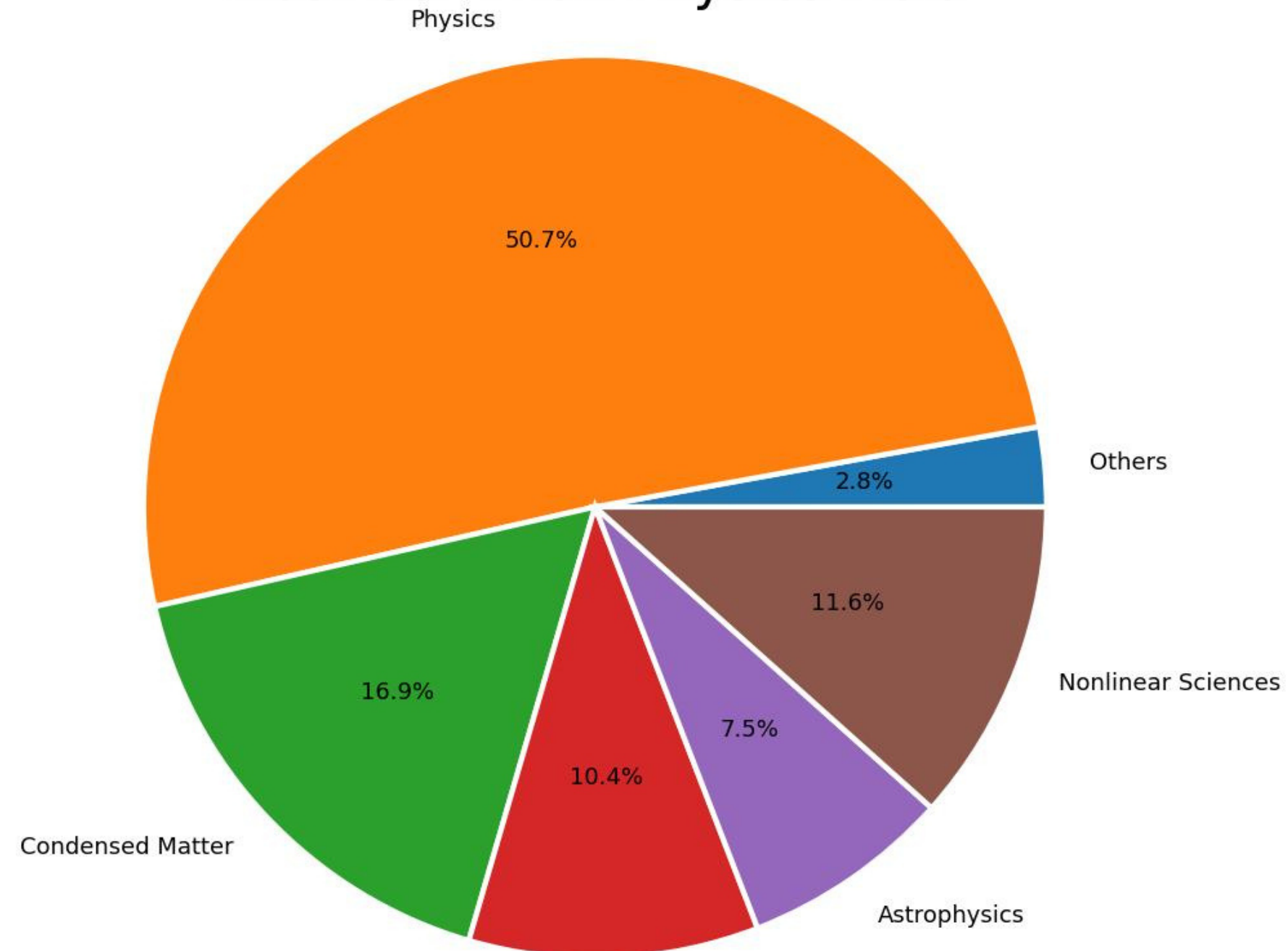
Most Common Areas

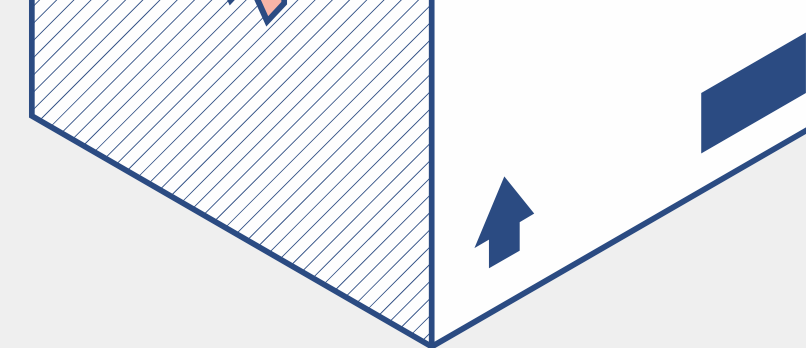
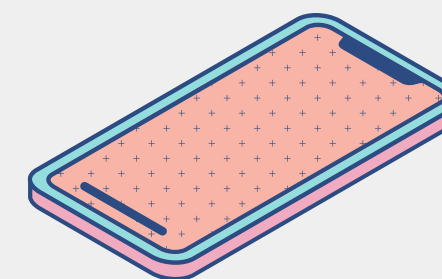
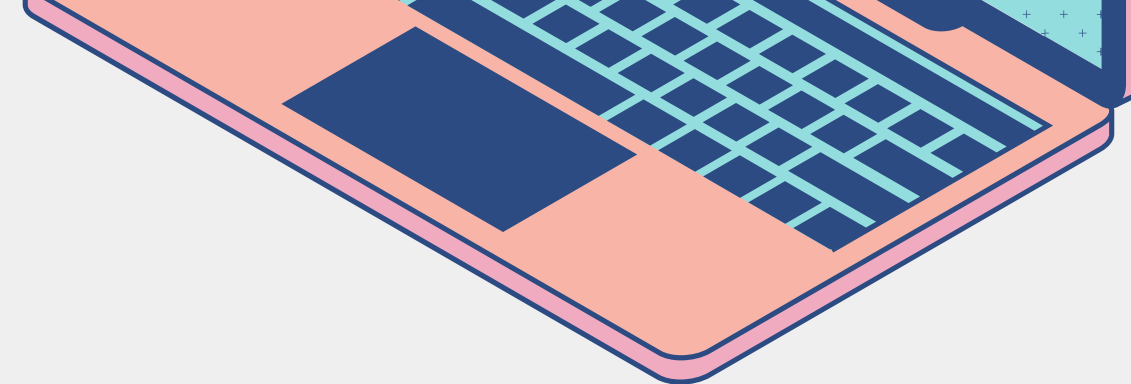
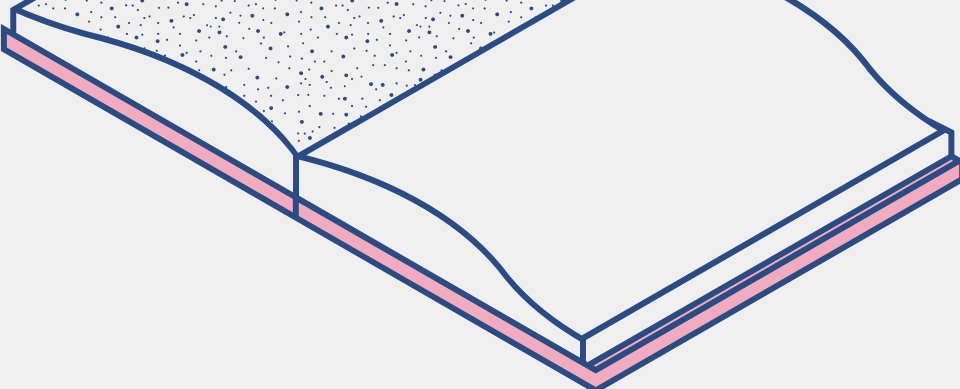




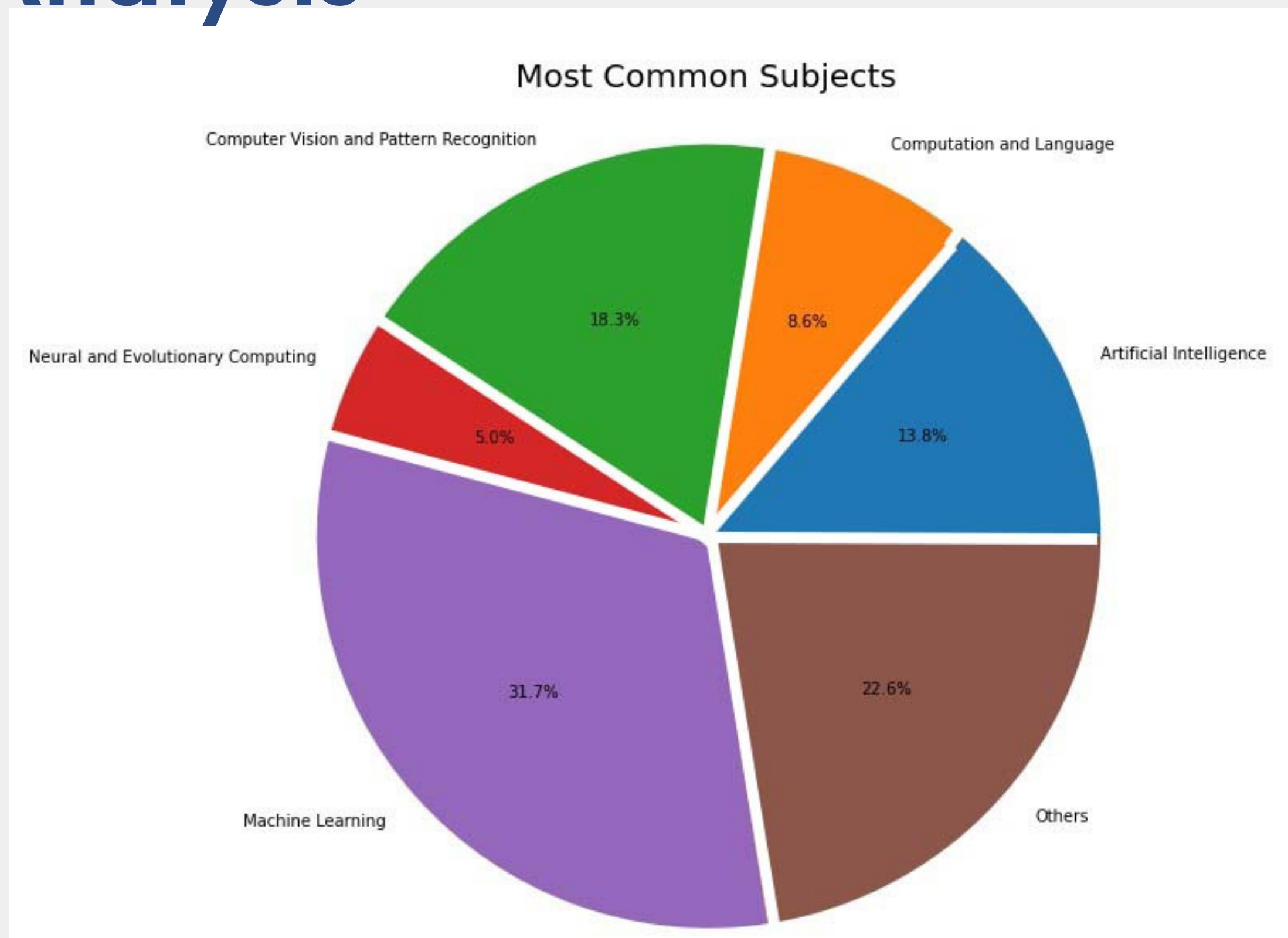
Data Analysis

Most Common Physics Field





Data Analysis





Conceptual Model





Prospective search task



Information processing



Found 500 search results

Randomized channel-satet duality

Authors: Bin Yan, Nikolai A. Sinitsyn

Summary: Channel-state duality is a central result in quantum information science. It refers to the correspondence between a dynamical process (quantum channel) and a static quantum state in an enlarged Hilbert... [more](#)

Publication date: 7 October, 2022

Integration of Skyline Queries into Spark SQL

Authors: Lukas Grasmann, Reinhard Pichler, Alexander Selzer