Outline

● Types of literature
● Where to find literature?
  ○ Overview of databases
● How to find literature?
  ○ Keyword search
  ○ Citation graph
● Search strategies
  ○ Choosing criteria
  ○ How to measure quality of papers?
● Other tips, tools
  ○ Bibliography management
Types of articles, materials

- Articles (Papers)
  - Journal article, Conference article
    - “Full-length” articles, these are most often of highest interest
  - Other Conference-related articles
    - Workshop, Symposium, Poster
  - Other Journal-related articles
    - Editorial
  - Peer-Reviewed

- Books, Book Chapters
- Magazine, Newspaper article
- Dissertations
- Other:
Types of Articles: Content type

- Presenting new contributions
  - Empirical - Experiments, case studies, observations, datasets..
  - Theoretical
    - Proofs, theorems, conceptual framework/architecture, …

- Reviewing existing results
  - Systematic: “Systematic Literature Review”
  - Non-Systematic: “Survey”, “A Review of …” ← Very handy for getting acquainted with a domain!
    - Manifesto
Evaluating publications: C.R.A.A.P¹

- **Currency**
  - When was it published?
- **Relevance**
- **Authority**
  - Who is the author, their credentials, affiliation(s)?
  - Is the information published in a peer-reviewed journal/conference?
- **Accuracy**
  - How reliable is the information?
  - Does it lack citations?
  - How is the quality of writing, formatting (spelling errors, distorted images, ..)
- **Purpose**
  - Is well-balanced and independent or leans towards selling some idea or product?

¹ *Conducting a successful literature search: A researcher’s guide to tools, terms and techniques, ELSEVIER*
Evaluating publications

- **What is the impact factor (IF) of a journal?**
  - Measures the mean frequency at which a publication's articles get cited within a time period.
  - E.g. JIF at 2020:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cites in 2020 to articles published in YR</th>
<th>Number of articles published in YR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>332</td>
<td>118</td>
</tr>
<tr>
<td>2018</td>
<td>447</td>
<td>110</td>
</tr>
<tr>
<td>Sum</td>
<td>779</td>
<td>228</td>
</tr>
</tbody>
</table>

\[ \text{JIF} = \frac{\text{cites to recent articles}}{\text{no. of recent articles}} = \frac{779}{228} = 3.417 \]

- **Measuring Authors:**
  - H-index
  - I10 index
Search Engines, Databases

- Search engines
  - Keyword-based search
    - Logical operators, time-based filtering, ...
  - Google Scholar
    - Also retrieves “alternative” results - seminar reports, presentations, lectures
  - Web of Science
  - Elsevier Scopus
  - EBSCO Discovery
  - A powerful tool is to analyse citations graphs,
    - E.g. Scholar “Cited by” links:

Example query: 

\[(aggressi* \text{ OR } violen*) \text{ AND (tv OR television) AND (child* OR adolescen* OR teen*)}\]
Limiting Search results

A combination of strategies should be used

- Excluding certain keywords
- No. of citations:
  - Exclude older papers with little citations
  - For newer papers, we should be careful about discarding them due to lack of citations
- Time period
- C.R.A.A.P. (Slide 5 of this presentation)
- Filter by set of conferences, journals
- …
Accessing articles

- Articles themselves are hosted publishers web portals
  - IEEE Explore, ACM, Elsevier, …
- Generally not free
  - (Open-Access articles are an exception)
- Universities, Libraries have subscriptions
  - Including University of Tartu - List of UT library-accessible databases
- The subscription is usually automatically recognized if you’re in the University network (Eduroam)
  - VPN Setup guide
- Web-based proxy also exists: https://login.ezproxy.utlib.ut.ee/menu
Tools, Aids

- **Writing**
  - LaTeX, Word, GDocs, ..
  - Overleaf - LaTeX as a Service

- **Managing bibliography**
  - Zotero, Mendeley, JabRef, ..
  - Organize, share your list of literature
  - Integrate your tools:
    - Browser plugin to quickly save
    - Automatic export to Bibtex format used by LaTeX
    - ...

Support by automated tools:
- LaTeX
- Word
- Google Docs

Citation Management

Potentially more manual work
Some examples (Demo)

- Scopus search
- Zotero
Finding cloud, fog, edge, mobile-related literature

1) **A selection of Fog and Edge Computing Conferences and Journals**
   a) by Advanced Networks Research Lab, University of Texas at Dallas

2) **Selection of publications from Mobile & Cloud Lab**

3) **Last but not least: Asking colleagues, supervisors, making own searches :)**
Homework task: Conduct literature search

1) Keyword-based search in Scopus
   a) Try to find papers relevant to your topic and RQ-s.
   b) Use the different discussed methods to limit the amount of results
      i) Filter based on publication time, domain, citation count, quality/length of article, language, …
   c) Write down your exact Scopus Query, and number of total results found
      
      E.g.: 14 document results (08.03.2021)
      TITLE-ABS-KEY (android OR ios) AND flutter AND (AND PUBYEAR > 2015) AND (LIMIT-TO (SUBJAREA, "ENGI") OR LIMIT-TO (SUBJAREA, "COMP"))

      Write down an explanation of how you limited the number of results - what were the criteria and briefly justify the usage of each one

2) Citation graph analysis
   a) Go through the cited/citing articles of your topic original article
      i) Depth of 1 is enough (don’t need to check citers of citers, etc)
      ii) (Optionally also any more articles of interest from Scopus search)
   b) Identify & write down any (relevant) articles you found this way. Were any of them also found through the search?

3) Choose 3-6 most interesting papers from parts 1) and 2).
   Write a 1+ page synthesis of them with discussion about how the found papers relate to your topic.
   The written discussion about these related works should form a meaningful whole.
Homework: Deadline & Deliverables

Deadline: 17.10

Deliverables:
Part 1)
   Exact Scopus Query used, no. of results and date of search
   Explanation for search limiting criteria (inclusion, exclusion criteria)
Part 2)
   List of Articles found, how each one was found
   (e.g. X - *citer of Y* or A, *citee of Y*)
Part 3)
   Written document
References, Materials

1)  *Conducting a successful literature search: A researcher’s guide to tools, terms and techniques, ELSEVIER*

2)  *A selection of Fog and Edge Computing Conferences and Journals*
   a)  by Advanced Networks Research Lab, University of Texas at Dallas

3)  *Selection of publications from Mobile & Cloud Lab*