CENTRAL AND SOUTH-EAST EUROPEAN RESOURCES

Polish LRTs: CESAR's story

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Research capabilities: bird's eye view

Most active NLP research centers in Poland:

- **Warsaw**: Institute of Computer Science, Polish Academy of Sciences:
  - morphosyntactic analysers
  - taggers
  - shallow parser and shallow Polish grammar
  - DCG-like efficient parser and Polish DCG grammar
  - syntactic valence dictionary of Polish
  - the IPI PAN Corpus of Polish
  - the National Corpus of Polish (with partners)
  - various corpus-related tools

} available now

Research capabilities: bird's eye view

Most active NLP research centers in Poland:

- **Warsaw**: Institute of Computer Science, Polish Academy of Sciences:
  - *Polish treebank*
  - *new taggers*
  - *wide coverage version of the DCG-like grammar with LFG extensions*
  - *more efficient shallow parser and larger shallow grammar of Polish*
  - *syntactico-semantic valence dictionary of Polish*
  - *WSD systems for Polish*
  - *NER systems for Polish*
  - *coreference resolution*

under construction; available in 1-2 years

Research capabilities: bird's eye view

Most active NLP research centers in Poland:

- University of **Łódź**:
  - Polish-English parallel and comparable corpora (including web and spoken data components of National Corpus of Polish)
  - Information Retrieval solutions (web-data crawling, categorization and clustering)
  - spoken multimedia corpora of Polish (with time-alignement and discourse annotation)
  - social media text data analysis solutions
  - corpus-driven relational lexicons
  - graph-based language data visualisation
  - *Information Extraction (semantic annotation for IE enhanced IR)*

Research capabilities: bird's eye view

Most active NLP research centers in Poland:

- **Poznań** (Adam Mickiewicz University and Poznań University of Technology):
  - morphosyntactic dictionary
  - syntactic and semantic parsing
  - lexical semantics
  - speech analysis and synthesis
  - speaker recognition
  - commercial machine translation systems
- **Wrocław** University of Technology:
  - Polish WordNet
  - computational lexical semantics
  - tagging

Research capabilities: bird's eye view

Most active NLP research centers in Poland:

- **Kraków** (AGH University of Science and Technology and Jagiellonian University):
  - morphosyntactic dictionary
  - information extraction
- **Gdańsk** University of Technology:
  - finite state technologies
  - efficient shallow parsing
- University of **Warsaw:**
  - bilingual corpora
  - OCR of historical texts
- Polish-Japanese Institute of Information Technology (**Warsaw**):
  - speech analysis and synthesis

Industry and open source

Commercial scene:

- bilingual dictionaries, spell- and grammar checkers: TiP
- search technologies: Netsprint, Szukacz, Carrot Search
- speech technologies: Ivona, PrimeSpeech, Skrybot
- machine translation: Poleng, Studio Gambit, Cafetran
- information retrieval: Institute of Media Monitoring
- semantic tools: Knowledge Hives

Community activities:

- Polish Wikipedia (810K articles)
- sjp.pl
- LanguageTool

Cross-border collaboration

Current projects:

- **ATLAS** – Applied Technology for Language-Aided CMS (ICT-PSP)
- **CESAR** – CEntral and South-east europeAn Resources (ICT-PSP) part of META-NET
- **CLARIN** – Common Language Resources and Technology Infrastructure (ESFRI infrastructure)
- **FLaReNet** – Fostering Language Resources Network (TN)

A few past projects:

- **LUNA** – Spoken Language Understanding in Multilingual Communication Systems (IST STREP)
- **LT4eL** – Language Technology for eLearning (IST STREP)
- A Treebank/Test-Suite of Polish Utterances (EU CRIT-2)

Current status of LRTs

Technology	Median
Tokenization, Morphology	5
Parsing	4
Information Retrieval	4
Speech Synthesis	4
…	
Text Semantics	1
Advanced Discourse Processing	1
Language Generation	1
Summarization, QA	1
Dialogue Management	1

Resources	Median
Reference Corpora	4
Syntax-Corpora	4
Parallel Corpora, TM	4
Lexicons, Terminologies	4
Thesauri, WordNets	4
…	
Discourse-Corpora	1
Multimedia/multimodal data	1
Language Models	1

Current status of LRTs

	Quantity	Availability	Quality	Coverage	Maturity	Sustainability	Adaptability
Technology	1	2	3	2	1	2	3
Resources	2	1	4	3,5	2	2	2
	2	2	3	3	2	2	2

Recent advances

Impact of CESAR/META-NET:

- increasing **awareness**: http://clip.ipipan.waw.pl with information about Polish LRTs, key players, projects, courses
- increasing **coverage and scope of operation**:
  - development of underrepresented resources
  - cross-lingual usage of Polish LRTs
- increasing **availability, reusability and sustainability**:
  - liberating resources (SGJP, Morfologik)
  - clear licensing policies with open-source preference

Recent advances

Impact of CESAR/META-NET:

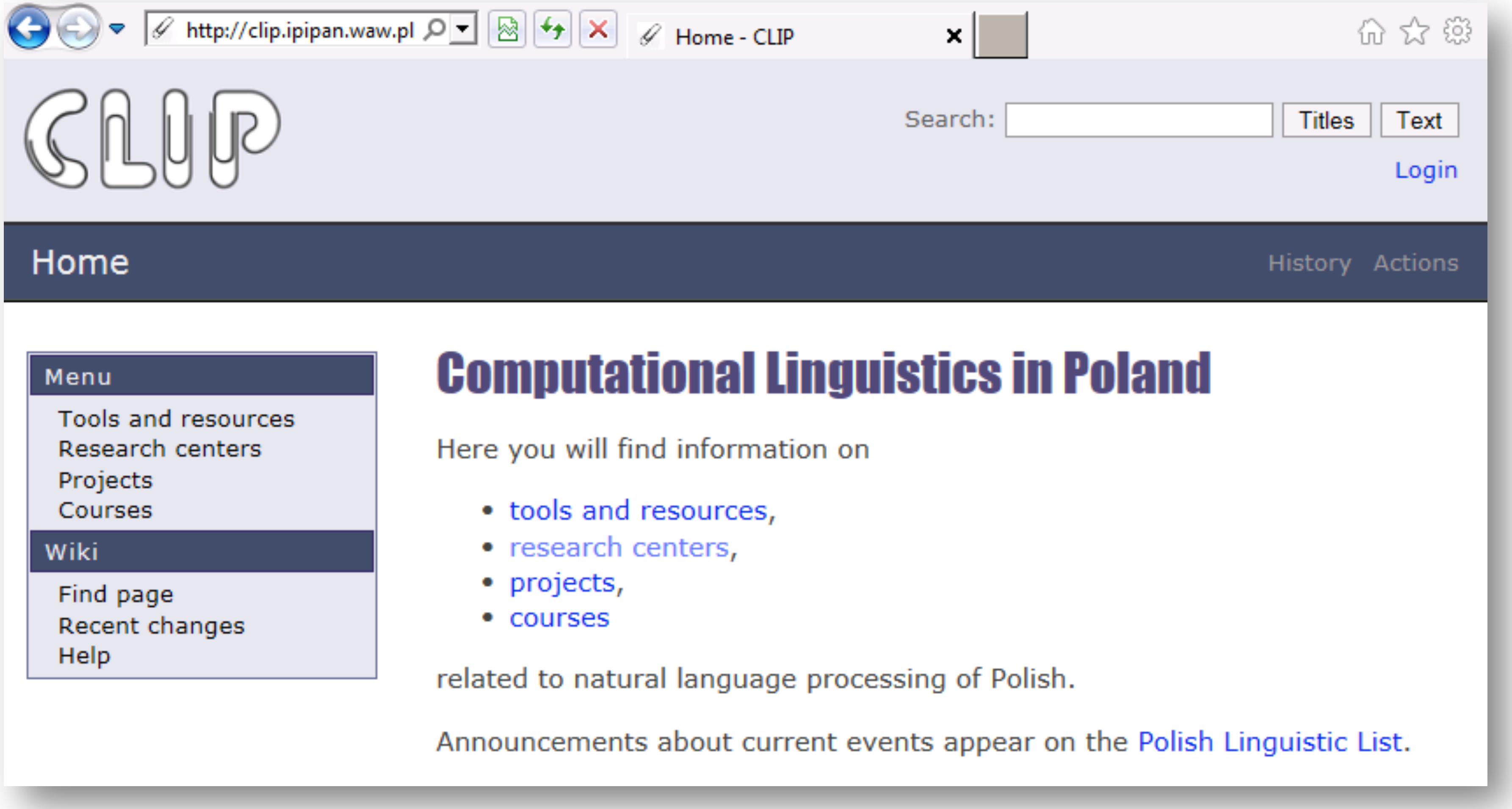
- increasing **quality**:
  - building specialized tools for quality improvement
  - larger scope of manual annotation
  - automata for error verification
- increasing **interoperability**:
  - adherence to standards
  - following FLaReNet, CLARIN and META-NET recommendations

To conclude...

- Various Polish resources and tools available or under intensive construction
- Many important research centres willing to co-operate and interested in applying expertise, tools and resources at the European level
- Active business and community players
- Expertise in the processing of Polish and, by extension, other “free word-order” morphologically rich languages
- Still, probably not enough participation in European projects

Visit http://clip.ipipan.waw.pl!

Thank you!



Computational Linguistics in Poland

Here you will find information on

- tools and resources,
- research centers,
- projects,
- courses

related to natural language processing of Polish.

Announcements about current events appear on the Polish Linguistic List.