Patents artificial intelligence tools

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Patent Public Advisory Committee quarterly meeting
Vision: Develop auto-classification system to generate CPC data to meet internal needs and international obligations for classification.

- The USPTO is developing and validating an AI-based auto-classification system
  - Full classification of patent documents
  - Identification of CPC symbols associated with claims (called C* or “C-stars”)

<table>
<thead>
<tr>
<th>CPC allocations</th>
<th>C*</th>
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<tbody>
<tr>
<td>G01S 7/4863</td>
<td>★</td>
</tr>
<tr>
<td>G01S 7/4865</td>
<td>★</td>
</tr>
<tr>
<td>G01S 7/4917</td>
<td>★</td>
</tr>
<tr>
<td>G01S 13/89</td>
<td>★</td>
</tr>
<tr>
<td>G01S 7/4914</td>
<td>★</td>
</tr>
<tr>
<td>G01S 17/894</td>
<td>★</td>
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Current activity in auto-classification

• Auto-C*
  – Implementation of auto-C* started December 2020; monitoring of quality data
  – Quality assurance process – limited sample of applications immediately following classification
  – Classification challenge process – review of classification after application assigned to an examiner
    • Pilot ongoing through July to accelerate data capture

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<th>Auto-class C* vs. control (250 applications / month)</th>
<th>+/- agreement with CPC + C*</th>
<th>+/- agreement of C* when underlying CPC is correct</th>
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<tr>
<td></td>
<td>− 1.7%</td>
<td>+ 0.6%</td>
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• Full classification
  – Currently AI models produce ranked list of CPC symbols for patent applications
  – Patent documents have a subset of CPC symbols (typically a few to a dozen) assigned
  – Development of CPC symbol assignment capability underway
AI-based search tools for patents

- **Prototyping**
  - Developing next AI prototype capabilities: new similarity-based sorting, document clustering
  - Refining user experience of matured AI prototypes to prepare for full release

- **Operationalization**
  - Preparing cloud infrastructure to support releases of AI capabilities to full examining corps
  - “More Like This” will be first AI capability available to all examiners with PE2E Search
  - Identification of further AI capabilities for full release underway

- **Value Determination**
  - Testing approaches and infrastructure for metrics capture are both under development
Thank you!

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