





SemEval-2013 Task 9: DDI Extraction

SemEval - International Conference on Semantic Evaluation.
 Several tasks or challenges are posed every edition

SemEval 2013 Task 9: DDIExtraction - Detect drug names and interactions among them described in text.

- Documents Documents extracted from DrugBank (Drug description leaflets database) and MedLine (abstracts of medical papers)
- Participants 11 research teams from around the world (1 Cuba, 1 Italy, 1 Finland, 2 Germany, 1 Portugal, 2 Spain, 3 USA)
- Subtasks
 - Drug name recognition and classification (NERC)
 - Drug-Drug interaction recognition and classification (DDI)

SemEval 2013 Dataset Course Plan

	Outline
SemEval 2013 Dataset Course Plan	1 SemEval 2013
	2 Dataset
	3 Course Plan

DDI Extraction Dataset

SemEval 2013

Dataset

Course Plan

DrugBank document example

- <document id="DDI-DrugBank.d193">
- <sentence id="DDI-DrugBank.d193.s0" text="A drug interaction study was performed in which ERBITUX was administered in combination with irinotecan.">
 - <entity id="DDI-DrugBank.d193.s0.e0" charOffset="48-54" type="brand" text="ERBITUX"/>
 <entity id="DDI-DrugBank.d193.s0.e1" charOffset="93-102" type="drug" text="irinotecan"/>
 <pair id="DDI-DrugBank.d193.s0.p0" e1="DDI-DrugBank.d193.s0.e0" e2="DDI-DrugBank.d193.s0.e1" ddi="false"/>
 </sentence>
 - -<sentence id="DDI-DrugBank.d193.s1" text="There was no evidence of any pharmacokinetic interactions between ERBITUX and irinotecan.">
 - <entity id="DDI-DrugBank.d193.s1.e0" charOffset="66-72" type="brand" text="ERBITUX"/>
 <entity id="DDI-DrugBank.d193.s1.e1" charOffset="78-87" type="drug" text="irinotecan"/>
 - cyair id="DDI-DrugBank.d193.s1.e0" e1="DDI-DrugBank.d193.s1.e0" e2="DDI-DrugBank.d193.s1.e1" ddi="false"/>

</document>

DDI Extraction Dataset

MedLine document example

SemEval 2013 Dataset

Course Plan

- <document id="DDI-MedLine.d19">

<sentence id="DDI-MedLine.d19.s1" text="A review. "/>

<sentence id="DDI-MedLine.d19.s2" text="A review is presented of some of the problems that may arise in association with anaesthesia for epileptic patients. "/> <sentence id="DDI-MedLine.d19.s3" text="There is the possibility of precipitating anticonvulsant drug toxicity."/> - < sentence id="DDI-MedLine.d19.s4" text="Numerous drug interactions are possible with some anticonvulsant agents. such as phenobarbitone and phenytoin, which affect hepatic microsomal enzyme systems, "> <entity id="DDI-MedLine.d19.s4.e0" charOffset="50-70" type="group" text="anticonvulsant agents"/> <entity id="DDI-MedLine.d19.s4.e1" charOffset="81-94" type="drug" text="phenobarbitone"/> <entity id="DDI-MedLine.d19.s4.e2" charOffset="100-108" type="drug" text="phenytoin"/> cypair id="DDI-MedLine.d19.s4.p0" e1="DDI-MedLine.d19.s4.e0" e2="DDI-MedLine.d19.s4.e1" ddi="false"/> pair id="DDI-MedLine.d19.s4.p1" e1="DDI-MedLine.d19.s4.e0" e2="DDI-MedLine.d19.s4.e2" ddi="false"/> spair id="DDI-MedLine.d19.s4.p2" e1="DDI-MedLine.d19.s4.e1" e2="DDI-MedLine.d19.s4.e2" ddi="false"/> </sentence> - < sentence id="DDI-MedLine.d19.s5" text="There is the risk of convulsions occurring in susceptible patients following the use of the new anaesthetic agents which are capable of inducing CNS excitability.">

<entity id="DDI-MedLine.d19.s5.e0" charOffset="96-113" type="group" text="anaesthetic agents"/> </sentence>

<sentence id="DDI-MedLine.d19.s0" text="Anaesthesia and the epileptic pateint, "/>

</document>

	Outline
SemEval 2013 Dataset Course Plan	 SemEval 2013 Dataset
	3 Course Plan

Course plan for lab sessions

- Session 1: Develop a rule-based baseline for Task 9.1 Drug NERC
- Sessions 1-2: Develop a ML-based system for Task 9.1 Drug NERC
- Delivery of NERC systems
- Session 3: Develop a rule-based baseline for Task 9.2 DDI detection
- Sessions 3-4: Develop a ML-based system for Task 9.2 DDI detection
- Delivery of DDI systems
- Sessions 5-7: Develop DNN alternatives for Tasks 9.1 and 9.2
- Delivery of DNN alternatives

SemEval 2013 Dataset

Course Plan

Course plan for lab sessions

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- Warning 1: Lab sessions may not be enough. You'll probably need to work on the assignments at home.
- Warning 2: Even if you can complete the work in class, sessions are every each other week, so you may forget what you were doing... It is good that you do work a bit at home to get things freshened-up