Toan Phung

Relevant Experiences

Research Project	*uPEPperoni: A 5' UTR Short Open Reading Frame searching tool*
Supervisor	Associate Professor Joe Rothnagel
Description	A tool for searching of sORF in user's input and similar sORF in other protein sequences within the program database and visualization of their positions using heatmap.
Contribution	Revamping code base and bug fixing. Shifting part of the database from file based to RDBMS. Integrating and improving functionality.

Research Project	*SWATHLib, an automated workflow for theoretical ion library generation for glycopeptides*
Supervisor	Associate Professor Benjamin L. Schulz
Description	DDA based spectral library together with complexity from post-translational modification are a suboptimal representation of ions within SWATH data. A workaround for this problem is a tedious process of creating a manually curated ion library. SWATHLib is created to address these problems.
Contribution	Writing of the JavaScript front-end using Angular 7 for automated user input collection. Implementing a Python back-end for processing of user requests.

Research Project	*Evolution and constraints of N-glycosylation Sequons*
Supervisor	Associate Professor Benjamin L. Schulz
Description	Analysis of N-glycosylation sequons in Homo sapiens glycoprotein homologs, their alignment and phylogenetic relation.
Contribution	Programming of automation workflow, logic and analyses

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