IT-skills & competencies

Assessment level:

 Basic knowledge

 Basic knowledge + personal experience in projects

 Extensive experience in projects

 In-depth expert knowledge

 Expert / guru

For code examples see my github page: p-a-kreer.github.de

	Level		Experience in years	Description of use
Languages:		Wolfram Mathematica	5	Main tool in PhD project
		FORM	3	Computer algebra system, specialized on Dirac algebra and efficient RAM distribution
		LaTeX	6	Wrote Master's thesis, multiple presentations, posters, papers, and PhD thesis
		Python 3	5	Ongoing research project, various side projects
		Kira	3	Linear Equation Solver based on Finite Fields
		Shell Scripting	4	Running jobs on computer cluster, scripts for terminal based programs (e.g. Kira), automatization of work steps related to PhD project
		Reduze 2.0	2	Generates and solves integration by parts for integrals
		Fermat	2	Optimized algorithms for specific mathemaical operations like GCD
		C	1	University course + project (simulation of solar system) PhD project (e.g. OpenLoops)
		Singular	1	Optimized algorithms for mathematical operations on polynomial rings e.g. computations of Groebner basis

		LabVIEW	1	University course, automatization of data aquisition
		HTML, XHTML & CSS	1/2	See: philipp-alexander-kreer.github.io
Frameworks and libraries:		pySecDec	3	Python libery for numeric integration, PhD + master's project
		pandas	1	Kaggle project + current research project
		Keras, TensorFlow	1	Kaggle project + current research project
		numpy	3	Kaggle project + current research project
		FiniteFlow	3	Mathematica libary for algebraic operations with rational expressions using finite fields, PhD + master's project
		FIRE6	3	Like Reduze 2.0 but with different algorithm
Operating systems:		Windows 10	9	Personal use
		Linux Ubuntuu (different versions)	4	Personal use + any work related tasks
Tools:				
		Git	4	All programming projects
		MS Outlook + Calendy	2	
Other (methods, concepts, patterns, etc.):		Analytic, problem oriented thinking	8	
		Reformulating problems	7	Reformulating problems to profit from specific strenghts of programs/libaries
		Project management	3	PhD Project, Kaggle Project, Master's project, Research project in Zurich
		Machine Learning	1	Kaggle Competitions, ML4Good, Reproduced paper,