CURRICULUM VITAE

JULIAN MÜLLER

MECHANICAL ENGINEERING, (B.E.)

LOGICS, (M.A.)

Date of Birth	29 Octobre 1984
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EDUCATION

10/2013-09/2016 · *Logic (M.A.)* · UNIVERSITY OF LEIPZIG

Logics (Master) (Grade 1.6 / GPA 3.4)

Specializations:
- *Constraint Programming*
- *Paraconsistent Logics*
- *Knowledge Representation*

Thesis (Grade 1.0 / GPA 4.0): *The Untyped Lambda Calculus and its Applications*
- *The formal system*: Syntax, operational semantics and properties
- *Interpretation Computer Science*: Foundation for programming languages
- *Interpretation Proof Theory*: Curry-Howard-Lambek-isomorphism
- *Implementation*: Interpreter for the untyped lambda calculus

Supervisor: Dr. Peter STEINACKER, Prof. Thomas BARTELBORTH

02/2008-09/2013 · *Mechanical Engineering (B.E.)* · RFH KÖLN

Mechanical Engineering (Bachelor) (Grade 1.8 / GPA 3.2)

Specialization:
- *Technical Optics / Laser Technology*
- *Mechatronics*
- *Programming in C*

Thesis (Grade 1.0 / GPA 4.0): *Wear Detection of Cutting Tools in Tunneling*
- *Development and construction of a laser scanner for wear detection*
- *Comparison of methods for industrial image processing (2d/3d)*
- *Project specific analysis of geometric and logistic constraints of tunneling processes*

Supervisor: Prof. Werner SIMON, Prof. Marcus SCHOLL

2004-2007 · *Event Organizer* · ANGELL INSTITUT FREIBURG

Event Organizer

Training as an *International Event Organizer*.

WORK EXPERIENCE

04/2012-07/2012 · *Working Student* · HERRENKNECHT AG

Working Studend Research & Development

Completion of the research project :
Design and construction of a test bench for laser triangulation:
- Calculation of the parameters of the optical measuring unit
- Design, implementation and commissioning of the prototype

10/2010-04/2012 · *Diplomate (R&D)* · HERRENKNECHT AG

Diplomate Research & Development

Comparison of procedurs for optical measurment:
- Testing and examination of depth-map generating procedures
- Examination of procedures for feature detection in image data
- Analysis of processes in mechanized tunneling
- Developing a conceptual design of an optical measuring system

09/2010-03/2011 · *Intern (R&D)* · HERRENKNECHT AG

Intern Research & Development

Development of concepts for mechanized tunneling:
- Project: concepts of mechanized tunneling in nuclear research
- Concept for traffic tunneling: expansion of existing tunnels under upkeep of road- and railtraffic

01/2009-09/2009 · *Tutor (Mathematics)* · RFH KÖLN

Tutor Mathematics

Tutorial for engineering mathematics:
- Foundations of engineering mathematics
- Calculus
- Linear algebra

04/2006-07/2006 · *Intern (Administration)* · LLOMBART EXPORT

Intern (Administration)

Internship abroad — task area in administration:
Office work, translations

SOFTWARE PROJECTS

Functional Programming · *Haskell* · PROJECT PAGE

Interpreter

Interpreter for the untyped lambda calculus. Besides being the paradigmatic language for functional programming, the lambda calculus sees wide application as an intermediate language for compilers.

Functional Programming · *Haskell* · PROJECT PAGE

Type-Checker

Interpreter for the simply typed lambda calculus. This calculus is the theoretical foundation for statically typed functional programming languages and of major importance in proof theory.

Constraint Programmierung · *Haskell* · PROJECT PAGE

Solver

Solver for the paraconsistent propositional logics K3, L3, LP, RM and for classic propositional calculus. Applications for these logics are in robotics, artificial intelligenze and knowledge representation.

Constraint Programming · *Prolog* · PROJECT PAGE

SAT-Solver

Solver for the satisfiablility problem (SAT) of classical propositional calculus; This procedure is used widely in the industry, especially for solving constructability and planning problems as well as in variant management.

Proof Theory · *Haskell* · PROJECT PAGE

Proof Theory / Combinator Library

The Curry-Howard-Lambek-isomorphism is the central connection of functional programming, logcis and category theory: Programs are constructive proofs, and constructive proofs are morphisms.

PROGRAMMING LANGUAGES

Very Good — Haskell, Prolog

Good — Java, C, MATLAB, Simulink, OCaml

Basics — Scala, SQL, JavaScript/ECMAScript, HTML, CSS, C++, Bash, SMT-LIB

TECHNOLOGIES

Operating Systems — Linux (Ubuntu, Mint, . . .), Windows

Version Control Systems — git

Computer Vision — MathWorks Image Processing Toolbox (MATLAB)

Testing Frameworks — XUnit-Frameworks in Java, Haskell, Prolog, C++, C, . . .

LANGUAGES

Mother Tongue — German

Very Good — English

Basics — Spanish

MISCELLANEOUS

08/2005-03/2006 · *Work & Travel* · NEW ZEALAND

Work & Travel

Language study- and working holiday New Zealand

September 26, 2016