

FREELANCE SOFTWARE ENGINEER

08/2013 - 12/2020

Homeoffice

Santa Clara, California

In-house development: computer vision app for smartphones

- Self-study, among other things, in computer vision, algorithms and human-machine communication
- Design and implementation (C/C++) of computer vision algorithms
 - Recognition of colors, geometrical shapes and playing cards in video images
 - Understanding the rules of a card game
- Design and implementation (*Objective-C*) of an intuitive human-machine interface
- Optimization of the software to process video images in real time
- Publication of the smartphone app *AI Card Player* on the Internet

07/2008 - 07/2013

Sunnyvale, California

Parental leave

Self-study in digital image processing with software applications

11/2007 - 06/2008

General Motors

Advanced Technology

Palo Alto, California

Modeling: search for optimal system architectures

- Design and implementation (*MLDesigner*) of models for the simulation of complex, distributed systems in the vehicle
- Design and implementation (C++) of search algorithms

06/2007 - 10/2007

Sunnyvale, California

Parental leave

08/2005 - 05/2007

Cisco Systems

San Jose, California

Support of software developers in the support team

- Writing guidelines for testing software modules
- Creation of *Perl* scripts for test automation

06/2004 - 07/2005

Crosstest

San Mateo, California

"Startup" experience: software development for unit test tools

- Design and implementation (*Java*) of software modules for generating test cases for C programs
- Analysis and optimization of existing software modules

11/2003 - 04/2004

Daimler Chrysler

Research & Technology

Palo Alto, California

Support of the research team in prototype development

- Analysis of a faulty navigation system (*Windows*)
- Correction and extension (C++) of the system

01/2003 - 09/2003

Homeoffice

Sunnyvale, California

Completion of my dissertation *Validation of Safety-Critical Distributed Real-Time Systems*

RESEARCH AND DEVELOPMENT ENGINEER

10/1998 - 12/2002

BMW Group
Technology Office
Palo Alto, California

Development methodology

- Participation in the team for software and hardware design methods
- Dissertation as a contribution to model-based software development

02/1990 - 09/1998

BMW Group
FIZ
München

Development of electronic systems in interdisciplinary teams

- Design and implementation (C) of embedded real-time systems in the drive train and vehicle body area
- Cooperation with related departments and external service providers

RELEVANT SKILLS

- Hardware-related programming in C
- Object-oriented programming in C++, Objective-C und Java
- Embedded software development (real-time systems)
- Design and implementation of algorithms (e.g. for image processing)
- Model creation with Scilab (open source alternative to MATLAB)
- Computer vision implementation
- Mobile app development (iOS)
- Excellent analytical thinking
- Enjoy solving complex tasks
- Strong interest in learning new things
- German (mother tongue), English (business fluent, spoken and written)

ACADEMIC EDUCATION

03/2000 - 09/2003

Dissertation in industry
(Dr.-Ing.)

Technical University of Munich (TUM) and BMW Group

Validation of Safety-Critical Distributed Real-Time Systems

10/1983 - 06/1989

Degree in electrical
engineering
(Dipl.-Ing.)

University of Karlsruhe (TH)

Digitale Sprachverarbeitung