

Ganymed Stanek

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SUMMARY:

Embedded Systems Engineer with **background in EE. 10 years** job experience, mostly working on **self-driving vehicles** at **Mercedes, Volkswagen, Stanford and Peloton** with focus in:

- Designing **board-level circuits** and **PCB design**
- **Firmware C programming** for **PIC/ARM/MSP430 microcontrollers**
- Programming **C++ on Linux** for autonomously driving robotic cars and trucks
- **Project management** experience leading teams in turning cars & trucks into **self-driving** robotic vehicles
- **Technology scouting & rapid prototyping**
- **iOS apps 'Flight Time' and 'Weekender'** in the App store (Objective-C)

PROFESSIONAL EXPERIENCE

- Jun 2013 - now **Hardware and Firmware Lead at Peloton Technology** (Mountain View, CA)
First full-time hire and core member of the small team that designed the first prototype of Peloton's truck platooning system. Responsible for the computing hardware and electronics that constitute the in-vehicle part of the product. Processor selection, PCB design, Coding (μ C firmware, Linux C++, Android). Two direct reports.
- Mar 2011 - Jun 2013 **Lead Engineer at PANASONIC Silicon Valley Research Lab** (Cupertino, CA)
Primary hardware engineer for Universal Design Group. Responsible for scouting emerging technologies and incorporating them into prototypes for new concepts and securing IP. Embedded circuit design and firmware programming. Focus on energy harvesting and low power (MSP430). Wrote reference device driver for Panasonic Gyro for Qualcomm Snapdragon Android platform. Managing contractors.
- Mar 2013 **Consulting for VOLKSWAGEN** to upgrade drive-by-wire on Stanfords self-driving car.
- Jan 2010 - Nov 2010 **Electrical Systems Engineer at JOBY ENERGY** (Santa Cruz, CA)
Part time 30%
Designing PCBs for motor controllers and switched power supplies for autonomous airborne vehicles.
- Jul 2007 - Mar 2011 **Systems Engineer at STANFORD UNIVERSITY** AI Lab, CS Department (Stanford, CA)
Designing drive-by-wire systems for research vehicles including the Autonomous Audi Pikes Peak TTS and Volkswagen Passat Junior. PIC33 and ARM Cortex M3 based microcontroller circuits. Embedded software design in C building on the Keil RL-ARM real-time OS. Extended the Stanford Autonomous Driving Software Framework to detect empty parking spaces using LIDAR sensor data. Project Manager for Autonomous Audi TTS managing an interdisciplinary project team of engineers, PhD students & technicians. Autonomous drive onto stage for Audi CEO keynote at Geneva Motor Show.
- Jan 2006 - Jul 2007 **Intern at VOLKSWAGEN of America Electronics Research Lab** (Palo Alto, CA)
Designing & programming PIC microcontroller circuits for a restored VW Bus, car key with MEMS display and an autonomous research vehicle. Successful technology scouting for an automated defog system. Eventually leading a project team of 4 engineers and 2 technicians with \$500k annual budget turning a Volkswagen Passat into the self-driving research vehicle "Stanley Junior" for participation in the DARPA Urban Grand Challenge 2007 (first race of self-driving cars in an urban environment). Designed hardware architecture and drive-by-wire system including PCB design and embedded C programming of custom PIC microcontroller circuit boards interconnected via CAN networks. The participation was a joint effort with the Stanford University and other companies forming the Stanford Racing Team, in which I held the function Vehicle Hardware Lead Engineer.
- May 2004 - Jan 2006 **Cofounder and Technical Advisor at Yalea Languages Ltd.** www.yalea.ch (Switzerland)
Part time
Responsible for technical aspects of company. Core business is an online travel agency specializing in study abroad Spanish & English language courses. Coordinated entire website production. Outsourced parts of programming & graphical design to India. Webserver Administration. Recruited programmers.
- 2001 - 2004 **Teaching Assistant (TA) at INSTITUTE FOR ELECTRONICS - ETH Zürich** (Switzerland)
Part time
Basic analog and digital circuits courses for computer science students.
- Jul 2003 - Aug 2003 **Semester Thesis in Control Engineering at DaimlerChrysler AG** (Stuttgart, Germany)
Programmed control algorithms for autonomous steering of a Mercedes concept car (PID/Sliding Mode).
- Jun 2002 - Aug 2002 **Intern** developing embedded systems, ported an arithmetic C library to ARM μ C at **BEMATECH** (Brazil)

DEGREE

- Oct 1999 - May 2005 **Master's of Science in Electrical Engineering & Information Technology**
SWISS FEDERAL INSTITUTE OF TECHNOLOGY (ETH), (GPA 5.28 out of 6), Zürich
- Nov 2004 - May 2005 Exchange student at **UC SANTA CRUZ** writing Master's thesis in Computer Engineering department

SOFTWARE:

Altium Designer (PCB), Keil RL-ARM rtos. Solidworks, Vector CANoe, vim

CODING:

C (PIC, ARM, MSP 430), C++, Objective-C (iOS), Java (Android, Servlet), SQL, Qt, bash

PATENTS

July 2007, Volkswagen,
US patent 12049291 pending

Nov 2012, Panasonic, US patent pending

Dec 2012, Panasonic, US patent pending

Method for Processing Data Based on an Evaluation of Real-Time Measurements of Movements of a User in a Vehicle and Based on Statistical Data on User Interactions With Input Devices in the Vehicle

Pairing Method Based on Electric Current Synchronicity for Augmented Batteries

Tangible Charge Level Awareness Method & Apparatus using Augmented Batteries

PAPERS & AWARDS

2012 IEEE Intelligent Vehicles Symposium (IV 2012), June 3-7, 2012, Alcalá de Henares, Spain

2011 IEEE Intelligent Vehicles Symposium (IV 2011), June 5 - 9, 2011, in Baden-Baden, Germany

2010 IEEE Intelligent Vehicles Symposium (IV 2010), June 21-24, 2010, in San Diego, California, USA.

12th International Conference on Information Fusion
July 6-9, 2009, Seattle, WA, USA

Journal of Field Robotics
Volume 25, Issue 9 (September 2008)
Special Issue on the 2007 DARPA Urban Challenge, Part II, Pages 569-597
Year of Publication: 2008
ISSN:1556-4959

Workshop on Distributed Smart Cameras (DSC 2006) held in conjunction with ACM SenSys 2006
October 31st, 2006, Boulder, CO, USA

Urban Challenge Symposium & Workshop
Charles Stark Draper Laboratory
Cambridge, MA
June 24th-25th, 2008

III Congresso SAE BRASIL – Tração Total (Resende, Brasil), June 6th, 2008

Singapore Science Center
June 28th, 2007

Singapore Science Center
June 29th, 2007

Up to the Limits: Autonomous Audi TTS

Dirk Langer*, Joseph Funke, Paul Theodosis, Rami Hindiye, Krisada Kritayakirana, Chris Gerdes, Bernhard Mueller-Bessler, Burkhard Huhnke, Marcial Hernandez, Ganymed Stanek

Towards Fully Autonomous Driving: Systems and Algorithms

Jesse Levinson, Jake Askeland, Jan Becker, Jennifer Dolson, David Held, Sören Kammel, J. Zico Kolter, Dirk Langer, Oliver Pink, Vaughan Pratt, Michael Sokolsky, Ganymed Stanek, David Stavens, Alex Teichman, Moritz Werling, Sebastian Thrun

Junior 3: A Test Platform for Advanced Driver Assistance Systems

Award of Distinction for Poster Presentation

Ganymed Stanek from Stanford University

Dirk Langer, Bernhard Mueller, Burkhard Huhnke from Volkswagen AG

Integrated Probabilistic Approach to Environmental Perception with Self-Diagnosis Capability for Advanced Driver Assistance Systems

Jiri Jerhot, Marc-Michael Meinecke, Thomas Form from Volkswagen AG

Thien-Nghia Nguyen from Univ. of Magdeburg

Ganymed Stanek from Stanford University

Jörn Knaup from Volkswagen AG

Junior: The Stanford Entry in the Urban Challenge.

Jan Becker, Suhrid Bhat, Hendrik Dahlkamp, Dmitri Dolgov, Scott Ettinger, Dirk Haehnel, Tim Hilden, Gabe Hoffmann, Burkhard Huhnke, Doug Johnston, Stefan Klumpp, Dirk Langer, Anthony Levandowski, Jesse Levinson, Julien Marcil, Michael Montemerlo, David Orenstein, Johannes Paefgen, Isaac Penny, Anna Petrovskaya, Mike Pflueger, Ganymed Stanek, David Stavens, Sebastian Thrun, and Antone Vogt.

Meerkats: A Power-Aware, Self-Managing Wireless Camera Network for Wide Area Monitoring

C. B. Margi, X. Lu, G. Zhang, G. Stanek, R. Manduchi, K. Obraczka

Technical talk

Junior in the Urban Challenge - Key Enabling Technologies and Technical Challenges

Keynote speech

Veículos fora de estrada não tripulados – Lições do DARPA Grand Challenge

Keynote speech at the opening of the exhibition of the robot car 'Stanley'
'Stanley', the Winning Robot of the Grand Challenge 2005

Talk as part of Science in the Café

Talk to Defense Science Organization

Sensors and Algorithms enabling 'Stanley' to Win the Grand Challenge

INVITED TALKS

LANGUAGES

German Native
English Fluent
French Advanced
Portuguese Intermediate
Spanish Basic understanding

OFF THE JOB

Relevant personal projects:

- Developed **iOS app 'Flight Time'** for pilots to log flight duration and number of landings automatically using GPS.
www.stanek.us/FlightTime (In the App Store since May 2012)
- Developed **iOS app 'Weekender'**, a calendar for you spare time
www.weekender.mobi (In the App Store since Sep 2013)
- One of 40 selected out of a field of 3000 to be a potential military or commercial pilot by Swiss government. Was sponsored for a private pilot license during the selection process.