

## SUMMARY:

**Embedded Systems Engineer** with **background in EE**. mainly working on **self-driving/autonomous vehicles** at **Mercedes, Volkswagen/Audi, Stanford, Peloton, Zoox, Embark and Waymo** with focus in:

- Bringing a **hardware product from conception to production**
- **Designing automotive-grade safety-critical vehicle ECUs** for automated vehicles
- Equipping cars & trucks with **drive-by-wire systems** and turning them into self-driving robotic vehicles
- Designing **board-level circuits** and **PCB design**
- **Firmware C programming** for **ARM/MSP430/PIC microcontrollers**
- Programming **C++ on Linux** for autonomously driving robotic cars and trucks
- **Technology scouting & rapid prototyping**
- **Hiring and Managing cross-functional teams** of electrical, mechanical and software engineers
- **Personal HW & SW projects**: Raspberry Pi accessories and iOS apps

## PROFESSIONAL EXPERIENCE

- Jul 2019 - Now **Systems Engineer** at **Waymo** (Mountain View, CA)  
Systems Engineer for Waymo's most safety critical embedded compute platform: Requirements writing, Schematic design for next generation.
- Feb 2019 - Jul 2019 **Member of technical staff** at **Embark** (San Francisco, CA)  
Established EE and Firmware foundation for in-house automotive Embedded Systems design. Designed circuit, pcb and firmware for PWM truck accelerator interface that was later extended to be Embarks publicly announced Universal Truck Interface.
- Feb 2018 - Oct 2018 **Manager, Embedded Systems** at **Zoox** (Foster City, CA)  
Managing a team of 10 engineers (electrical engineers, low level software engineers and PCB Layout designers) to develop sensors, compute platforms and other electronics for Zoox's autonomous vehicles.
- Jun 2013 - Feb 2018 **Hardware and Firmware Manager** at **Peloton Technology** (Mountain View, CA)  
First full-time employee and core member of the small team that designed the first prototype of Peloton's truck platooning system. Built up the hardware & firmware team and interviewed 100+ candidates for various roles in the company at all levels. Headed the design & development of Peloton's first production hardware including an automotive-grade safety-critical Linux-capable ECU, display and user interface elements from conception through design, DFM, validation & compliance to launch readiness. Processor selection, PCB design, Coding (uC firmware, Linux C++, Android).
- 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). Creation of reference device driver for Panasonic Gyro for Qualcomm Snapdragon Android platform. Managed contractors.
- Mar 2013 **Consulting** for **VOLKSWAGEN** to upgrade the drive-by-wire on Stanford's 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 VW Passat into the self-driving research vehicle "Junior" for participation in the DARPA Urban Grand Challenge 2007 (race of self-driving cars in an urban environment). Designed hardware architecture & drive-by-wire system incl. PCB design & 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.

2001 – 2004  
Part time  
**Teaching Assistant (TA)** at **INSTITUTE FOR ELECTRONICS - ETH Zürich** (Switzerland)  
Basic analog and digital circuits courses for computer science students.

Jul 2003 – Aug 2003  
**Semester Thesis** in **Controls Engineering** at **DaimlerChrysler AG (Mercedes)** (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 µC at **BEMATECH** (Brazil)

DEGREE

Oct 1999 - May 2005  
**Master's of Science** in **Electrical Engineering & Information Technology**  
**ETH Zürich (Swiss Federal Institute of Technology)**, GPA 5.28 out of 6, (Switzerland)

Nov 2004 - May 2005  
Exchange student at **UC SANTA CRUZ** writing Master's thesis in Computer Engineering department

LANGUAGES

**German** Native  
**English** Fluent  
**French** Advanced  
**Portuguese** Intermediate  
**Spanish** Basic understanding

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

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

OFF THE JOB

**Relevant personal projects:**

Developed **three iOS apps** that are live in the App Store (Objective C):

- **'Flight Time'** for pilots to log flight duration & number of landings automatically using GPS (May 2012).
- **'Weekender'** calendar for your spare time. [www.weekender.mobi](http://www.weekender.mobi) (Sep 2013)
- **'Bookmark To File'** to create .url & .webloc files in a share extension (Aug 2019)

Designed and manufactured **small hardware projects** that are for sale as [poolsidefactory.com](http://poolsidefactory.com):

- **Acrylic Tilt-Adjustable Mounts** for the Raspberry Pi Cameras
- Raspberry Pi to **iPod HiFi 30-pin-dock Adapter** for Airplay Audio Streaming

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.

Oct 2020, Waymo, US patent filed	Detecting and disrupting illicit signals on a CAN bus Ganymed Stanek, Stacy Janes
2016 Peloton, Worldwide patent published WO2018039114A1	Systems for vehicular platooning and methods therefore
2016 Peloton, Worldwide patent published WO2018039134A1	Automated connected vehicle control system architecture
Nov 2016, Peloton, US patent application WO2017070714A9	Vehicle identification and localization using sensor fusion and inter-vehicle communication
Aug 2015, Peloton, US patent application WO2017035516A1	Devices systems and methods for vehicle monitoring and platooning
Jun 2014, Panasonic, US patent grant US 9,330,306 B2	3D Gesture Stabilization for Robust Input Control in Mobile Environments
Nov 2012, Panasonic, US patent grant US 9151803 B2	Pairing Method Based on Electric Current Synchronicity for Augmented Batteries
Nov 2012, Panasonic, US patent grant US 8847775 B2	Tangible Charge Level Awareness Method & Apparatus using Augmented Batteries
Jul 2007, Volkswagen, US patent application US 12/049,291. published as US 20090234529	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

2012 IEEE Intelligent Vehicles Symposium (IV 2012), June 3-7, 2012, Alcalá de Henares, Spain	<b>Up to the Limits: Autonomous Audi TTS</b> Dirk Langer, Joseph Funke, Paul Theodosis, Rami Hindiyeh, Krisada Kritayakirana, Chris Gerdes, Bernhard Mueller-Bessler, Burkhard Huhnke, Marcial Hernandez, Ganymed Stanek
2011 IEEE Intelligent Vehicles Symposium (IV 2011), June 5 - 9, 2011, Baden-Baden, Germany	<b>Towards Fully Autonomous Driving: Systems and Algorithms</b> 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
2010 IEEE Intelligent Vehicles Symposium (IV 2010), June 21-24, 2010, San Diego, California, USA.	<b>Junior 3: A Test Platform for Advanced Driver Assistance Systems</b> Award of Distinction for Poster Presentation Ganymed Stanek from Stanford University Dirk Langer, Bernhard Mueller, Burkhard Huhnke from Volkswagen AG
12th International Conference on Information Fusion July 6-9, 2009, Seattle, WA, USA	<b>Integrated Probabilistic Approach to Environmental Perception with Self- Diagnosis Capability for Advanced Driver Assistance Systems</b> 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
Symposium on Automation, Assistance and Embedded Real Time Platforms for Transportation (AAET), 2008, Braunschweig, Germany	<b>Junior, the stanford racing team's robot in the 2007 darpa urban challenge</b> M. Montemerlo, J. Becker, S. Bhat, H. Dahlkamp, D. Dolgov, S. Ettinger, D. Haehnel, T. Hilden, G. Hoffmann, B. Huhnke, D. Johnston, S. Klumpp, D. Langer, A. Levandowski, J. Levin- son, J. Marcil, D. Orenstein, J. Paefgen, I. Penny, A. Petrovskaya, M. Pflueger, G. Stanek, D. Stavens, A. Vogt, and S. Thrun.
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	<b>Junior: The Stanford Entry in the Urban Challenge.</b> 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.
Workshop on Distributed Smart Cameras (DSC 2006) held in conjunction with ACM SenSys 2006 October 31st, 2006, Boulder, CO, USA	<b>Meerkats: A Power-Aware, Self-Managing Wireless Camera Network for Wide Area Monitoring</b> C. B. Margi, X. Lu, G. Zhang, G. Stanek, R. Manduchi, K. Obraczka