Fayence 83440 – France (FR)
philippe.weingertner@gmail.com

PHILIPPE WEINGERTNER

+33-6-50-02-56-89
linkedin
github

SKILLS

Field of applications: Autonomous Driving, Speech Recognition, Audio Processing, Mobile Communications

Deep Learning: RNN, LSTM, Convolutional Neural Networks, Tensorflow, Keras, Pytorch, Theano
Machine Learning: GMMs, Expectation-Maximization algorithms, HMMs, clustering
Software developments: C++, C, Python, Matlab, OpenCV, ROS, Linux, Git, Cudnn, Eigen, Ipopt
Embedded software: drive PX2, RTOS, Linux Kernel Modules, Assembler, MIPS and memory optimizations
Autonomous Driving: Perception (Objects detection: Yolo, SSD, and Semantic Segmentation), Computer Vision and Structure From Motion, Bayesian Filters, Path Planning, Command and Control (Model Predictive Control)

EXPERIENCE

AD Software Architect | **Renault Software Labs, Sophia-Antipolis FR** | **July 2017 - Now**

Autonomous Driving Platform Architecture:

- Evaluate Deep Learning algorithms and platforms
- Support AD platform definition, dimensioning and prototyping activities
- Work on 2 patent proposals related to Perception, Sensor Fusion and Path Planning

Audio Software Architect | **Intel Corporation, Sophia-Antipolis FR** | **June 2009 – June 2017**

Advanced studies on audio and Speech Recognition:

- Improved far-field Speech Recognition performances by researching and prototyping (Theano, C++, Matlab) advanced Deep Learning technologies (RNN, LSTM, CNN) and speech de-reverberation processing
- Enabled Intel VoLTE modem certification at AT&T and China Mobile operators for Apple iPhone7 product by providing a state-of-art Jitter Buffer Management solution in replacement of legacy Intel solution
- Developed Linux Kernel Modules for low power and low latency audio processing
- Produced key ideas for 4 Patents https://patents.justia.com/inventor/philippe-weingertner

Senior Software Engineer | **Icera Semiconductors, Sophia-Antipolis FR** | **June 2006 – May 2009**

HSUPA LTE wireless modem developments:

- Developed, optimized and certified HSUPA MAC layer for first Icera wireless modem product
- Achieved 20% CPU load reduction for protocol data stack processing

Software Engineer Technical Lead | **Sierra Wireless, Paris FR** | **March 2002 – May 2006**

UMTS wireless modem developments:

- Led an 8 people protocol stack development team
- Developed RRC module and maintained RLC and MAC modules
- Reduced overall debugging efforts by setting up simulation environments and specific test procedures

EDUCATION

- **SELF-DRIVING CAR NANODEGREE, UDACITY, 2017**
- **M.SC. IN COMPUTER SCIENCE** WITH MOBILE COMMUNICATIONS SPECIALIZATION**, ISEP, PARIS, 1994**

PROJECTS

Self-Driving Car projects in 2017:

- **Semantic Segmentation for Visual Scene understanding:** developed a 20 classes pixel-wise classifier, in Tensorflow and Python, that achieves 73.05% test set IOU on official Cityscapes test set with an optimized 0.06 s runtime https://github.com/PhilippeW83440/CarND-Semantic-Segmentation
- **Path Planning with Jerk Minimization Trajectories:** developed a High-Way path planner (predictions, behavioral planner, trajectories generation in Frenet frame, dynamic safety distances and collision avoidance) in C++ https://github.com/PhilippeW83440/CarND-Path-Planning-Project validated on Bosch challenge simulator
- **Programmed a Real Self-Driving Car:** developed a ROS pipeline (camera perception, path planning and command and control) integrated with Autoware https://github.com/PhilippeW83440/CarND-Capstone