Anthony Tri Phap Nguyen

based in: San Francisco – Stockholm – Frankfurt

☐ +1(662) 219 9496 • ✉ mail@atwing.net • 🌐 www.atwing.net • ⚙ atwing
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Education

KTH Royal Institute of Technology   **Stockholm, Sweden**
MSc in Machine Learning   Aug 2016 - June 2018 (expected)

Darmstadt University of Applied Sciences   **Darmstadt, Germany**
B.Eng. in Electrical Engineering, GPA: 3.6   Sep 2012 - Mar 2016
Concentration: Telecommunications Engineering

Personal Projects

Voice Controlled Home Automation: Bash shell scripting, Python. Build a
digital assistant on a single-board computer to voice control computers, home devices,
lights and execute shell scripts. Triggered by a Bluetooth remote for privacy protection.

Speech Analyser: Implemented in MATLAB. Using short-time Fourier transform,
autocorrelation, ZCR and energy-based learning to distinguish between
utterances & breaks, voiced & voiceless consonants, gender & approx. age of speaker.

Surveillance System: Homemade multi-camera system using Raspberry Pis.
Features include communication to network for web streaming and remote control via VNC.

Related Coursework

Deep Neural Networks: Used multilayer ConvNets with BackProp, ReLU
and max pooling to classify images in CIFAR-10 dataset

AI in Gaming: Used heuristic functions, alpha-beta pruning and HMMs to create
an AI bot able to play games such as 3D Tic-Tac-Toe, Checkers and Duck Hunt

Itinerary Planner: Used PDDL to automatically construct an travel plan given the
customers interests in an area featuring public transport systems and tourist attractions.

Data Collection in Speech Technology: Generated new speech samples based on
Spontal dataset using Shadowing and other respeaking methods. Methods evaluated on
Amazon Mechanical Turk.

Simple Image Classifier: Implemented AdaBoost, Bayes Classifier, Support
Vector Machines to classify images and decipher hand writing.

Basic Image Analyser: Implemented Hough Transform, K-means clustering,
graph cuts for image feature detection and segmentation.

Artificial Neural Networks: Implemented simple ANNs of types Back-prop,
Hopfield, RBF and SOM for optimization, classification, diagnosis.

Experience

Darmstadt UAS   **Darmstadt, Germany**
DSP Engineer   Apr 2016 - Aug 2016
Implemented a voice pitch analyser that measures and returns the pitch and range
of a speaker using a Raspberry Pi. Implementation in C.

Ngee Ann Polytechnic   **Singapore**
DSP Engineering Intern   Aug 2015 - Feb 2016
Implemented a Recursive least squares filter on a real-time digital signal processor
which adaptively reduces noise in audio signals. On-board implementation in C,
filter simulation in MATLAB

Darmstadt UAS   **Darmstadt, Germany**
Teaching Assistant   Mar 2015 - June 2015
Programmed the FPGA of a Zedboard to control onboard LEDs & buttons and simulate
traffic lights. Implemented in VHDL and Simulink.

Darmstadt UAS   **Darmstadt, Germany**
Teaching Assistant   Apr 2014 - Feb 2015
Held various weekly seminars for courses in: simulation of technical systems using
MATLAB, microprocessor technology, measurement technology, signal processing,
design of digital systems

Technical Skills

Programming Languages: C/C++, MATLAB, Python, JAVA, VHDL, SQL, ASM Language

Others: Git, Slack, Linux, Unix, OSX, Windows, LaTeX

Interests & Others

Languages: German (mother tongue), Vietnamese (mother tongue),
English (excellent), Russian (basic), Swedish (basic)

Assistant Manager: worked in a family business (supermarket) from childhood on.
Tasks include technical administration, inventory management and PR

Community Service: Supervisor at a diaconia in Nieder-Ramstadt.
Department: Electrical Assembly

Scholarship: 18 month scholarship from Anna Ruths-Stiftung for master studies at KTH