

Curriculum Vitae

Personal information

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Date of birth: October 26, 1972
Nationality: Dutch
Gender: Man

Education

2001-2007 University of Groningen, Artificial Intelligence (master's degree)
Specialization: Autonomous Perceptive Systems
Side activities: Board of student society CoVer
2000-2001 University of Groningen, Physics
1993-1996 HEAO Groningen, Business Management, till 2nd year
1992-1993 HTS Utrecht, Industrial Automation (propaedeutic diploma)
1989-1992 MTS Groningen, Electrical Engineering (diploma)

Relevant courses/ conferences

2010 C++ at the University of Groningen (diploma)
2010 ICRA 2010 in Anchorage, Alaska; IEEE Conference on Computer Vision and
Pattern Recognition (as a participant)
2009 Software testing techniques (diploma)
2008 Applied Optics at CTT in Eindhoven (diploma)
2008 ICVSS 2008 in Sicily, Italy; Int. computer vision summer school (as a participant)
2006 DECOI 2006 in Amsterdam; International summer school on collective
intelligence and evolution (as a participant)

Work experience

2013-to date Freelancer, ITZZP (www.itzzp.nl)/ owner of start-up Auto3D (www.auto3d.com)
2008-2013 Algorithm designer at the computer vision department of Philips Research
2005-2006 Science shop for physics at the university of Groningen (part-time)
2001-2003 Cabdriver at taxi company Hamstra Grootegast (part-time)
1991-2005 From merchandiser to manager at the shopping center in Grootegast.. The shopping
center includes an Albert Heijn, a DA drugstore and a Gall&Gall liquor store (full-time)

Relevant Projects

2015-to date	Printshop app: Design T-shirt prints and preview the result in 3D via an app.
2015-to date	Online diary website and offline diary app to facilitate mood monitoring of patients. Public link: www.Auto3D.com/dagboek
2015	Grooming app: The Philips grooming app can give photo-realistic beard style previews. Task: convert Matlab research code into C++ production code. (freelance project)
2014	'Virtual Dressing Room': A customer can virtual fit clothes standing in front of a 'mirror'
2013-2014	'3D Photo Viewer' at Start-up Auto3D: I developed an structure from motion algorithm that can obtain a photo-realistic 3D model from a large unstructured set of 2D images. The 3D model can be used in the 3D photo viewer to navigate through a large set of photo's. I developed the structure from motion in C++ and used a MySQL-database to store the raw data and intermediate results. To visualize the intermediate results, I used OpenGL and interfaces made with Qt. For the 3D photo viewer, I first made a prptotype in JavaScript and later on I used Unity3D and C#. The large scale matching and retrieval of the images was done with machine learning, in Java. An example of an object captured by the tool can be found at www.Auto3D.com .
2013	Analysis of endoscopic images with computer vision techniques at Philips Research. Endoscopic video is captured in the throat of a person that is suffering from sleep apnea. I wrote code to analyze the visual data in Java with the ImageJ API and in C++ with OpenCV. (freelance project)
2011-2013	'Vital Sign Camera': An app was added to fitness equipment that can determine the heart rate of a exercising person by looking at that person with a normal camera. I was involved during the research phase (Matlab) and during industrialization (C++).
2012	Domain name catch app: I build a small Android app to catch expired domains.
2012	'Oled Wall': I added real-time face tracking and visual effects to the interactive Oled Wall (C++)
2009-2011	'Autonomous vacuum cleaner': I developed a visual-SLAM (Simultaneous Localization and Mapping) algorithm for an autonomous household robot in Matlab. The robotics team used Scrum during developed.
2010	Steering an Actual Size Jeep with a Wii Remote: A weekend nerd project, creating a system with which we could remotely drive and steer the TNO RoboJeep
2009	3D object recognition by means of ToF cameras (Time of Flight) and stereo cameras.
2008-2009	Self-calibration of a stereo rig. A stereo camera of a robotic vacuum cleaner is calibrated automatically when it is moving through a partially static environment. By making automatic re-calibration possible, the cost of the stereo camera setup could be reduced. I designed the calibration algorithm in Matlab.
2007-2008	MSc-thesis at TNO; SLAM (Simultaneous Localization and Mapping) based on SIFT (Scale Invariant Feature Transform). I designed the SLAM algorithm in Matlab and I made a 3D viewer in Java and OpenGL to visualize the 3D point cloud.
2005	2 nd place at the Robochallenge. I constructed a robot with omnidirectional steering and wrote the software for perceiving the environment and steering the robot in Java and C++. The goal of the Robochallenge contest is to capture colored balls that are hanging in a delimited game area. Part of the calculations are taking place on the robot itself but the time consuming computer vision calculations and the calculations for the Kalman filter that is used for localization, are handled by 3 computers near the sideline of the playing field by using remote method invocation over a wireless network.

IT skills

Specialization:	Software developer, Algorithm designer
Operating systems:	Windows, Linux, Android
Programming languages:	C++, Matlab, Java, C#, Python, Javascript, OpenGL, Labview, Pascal, Prolog
Database:	MySQL
Software development kits:	OpenCV, ImageJ, OpenVdb (sdk to store and manipulate volumetric data in a sparse three-dimensional grid), PCL (point cloud library), VTK (visualization toolkit), Ceres Solver (optimization toolkit from Google), Lire (Lucene Image Retrieval toolkit), etc.
Software packages:	Matlab/Octave, Unity3D, Labview, Simulink, Mathematica, Paraview (tool to analyze extremely large datasets), Blender, Meshlab, Autocad, Halcon, Qt/QtCreator, Eclipse, Visual Studio, etc.
Revision control systems:	Git, SVN

General information

Languages:	Dutch, English
Driver's licenses:	B/C (car & truck)
Hobbies:	Running, volleyball, programming and DIY-projects