MINGYANG LI

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Professional Profile

Summary
An adept creator and analyst who possesses critical thinking and numeric skills in the fields of computer science. Interested in new knowledge and new technique. Familiar with the basic data structure and algorithm and understand fundamental computer system, etc. Thrives on responsibility, and has relative experience in several projects. Can fit the position quickly based on requirement of company.

Professional Skills

- Proficient in Java, JavaScript, HTML-5, Python, MATLAB, CSS3/Sass
- Familiar with C++, C, SQL, Unity, WebGL, Rust
- Other skilled in keil (MCU Design), System Compiler, protel99se, Labview, Lumerical-FDTD, Zemax, etc.

Education

Northwestern University, U.S.A Sept. 2016 – Dec. 2017

- Master of Science, major in Electrical Engineering
- Relevant courses: Machine learning/Design and analysis of algorithms/Advanced computer vision/Intro to computer graphics/Digital signal processing/Intro to parallel computing/Data management and information processing

Beijing Institute of Technology, China Sept. 2012 – June 2016

- Bachelor of Engineering, major in Optical Electronics & Information Engineering
- Overall GPA: 3.75/4.00 (87.5/100)
- Academic Honors & Awards: 5 times Scholarship in Beijing Institute of Technology, 2013 – 2015
  2nd Prize in National Mathematical Modelling Contest, 09/2013

University of California, Berkeley, U.S.A July. 2014 – Aug. 2014

- Visiting scholar
- Projects: Marketing/Finance

Research Experience and Projects

Publication:

- Mingyang Li, et al. "Design of Two-wheeled Mobile Control Robot with Holographic Projection", Electronic Technology Information Research Institute, MilT.

Auto-animated and User Controlled 3D Computer Graphic Jan. 2017 – March 2017
Department of Electric Engineering and Computer Science

- Used WebGL, GLSL, JavaScript and HTML-5 to create moving, turning and jointed colored objects with individually-specified emissive, ambient, diffuse, specular parameters
- Implemented automatically re-sized 3D graphics in the browser window
- Utilized two different views of orthographic and perspective which can be switched by the user
- Built a point of adjustable view which can be controlled by user to move and turn in different ways in the simulated 3D graphic world
- Implemented realistic interactive lighting and materials in WebGL which the light source in smoothly movable and user-adjustable
- Implemented Phong lighting and Blinn-Phong lighting models with Phong shading and Gouraud shading

Faces Detection Based on Skin Color in Computer Vision Feb. 2017 – March 2017
Department of Electric Engineering and Computer Science

- Used mixture Gaussian model and Expectation Maximization Algorithm to classify skin color in YCrCb space with python
- Made open and close operation to remove noise and made geometry ratio to remove non-face areas
- Used wavelet packet analysis to refine the detection area and drew the face box to determine the position of the face

Sleeping Tracking and Analysis Website Oct. 2016 – Nov. 2016
Department of Electric Engineering and Computer Science

- Used HTML-5 and JavaScript to develop a website with human computer interface basic principles
- Implement the register and log in function
- Implement recording the data of user's sleeping time and providing the analysis and reward according to the data

Guiding Eyes for the Blind – Intelligent Interactive Car Sept. 2014 – July 2015
BIT Undergraduate Innovation Program

- Implemented the voice interaction with the blind via phone App, to determine the destination using Java
- Utilized the Kinect sensor for real-time acquisition of depth images to analyze the environmental information
- Processed the depth images, used 3D point cloud data to calculate the three-dimensional scene reconstruction
- Identified obstacles, made voice alerts and adjusted the car's position in the Blind Alley via GPS module

Calculation of Electric Field Distribution & Electrons Trajectory in Electron Lens Feb. 2015 – July 2015
School of Opto-Electronics, Advisor: Prof. Weiqi Jin

- Derived Physical and mathematical model and converted to actual numerical calculation with C++

- Determined performance of symmetrical image intensifier with a plurality of cylindrical shaft electrodes, and the electron optical imaging system space distribution of electric field, to determine the trajectory of the electrons
- Tested the parameters of the imaging electron optical system and carry out the image quality assessment
- Demonstrated the use of ultra-relaxation iterative algorithm to calculate parameters' superiority

Faces Recognition in Computer Vision Nov. 2014 – March 2015

School of Opto-Electronics, Advisor: Prof. Bin Hu

- Studied and recognized different faces from two sets of pictures with MATLAB
- Based on principle component analysis(PCA) and independent component analysis(ICA) with Eigenface
- Compared with the result from another method using AdaBoosted Gabor features

Research Stereo Imaging and Thermography's Theory and Technology Sept. 2013 – Nov. 2014

Sponsored by National Undergraduate Innovation Training Program, Advisor: Prof. Weiqi Jin

- Built dual cameras + dual display stereoscopic thermography system to study 3D thermography matching & display
- Established the mathematical models to determine relationship of the image angle with baseline distance
- Obtained the 3D thermography by analyzing the best 3D position between different distance in thermal imaging

Working Experience and Activities

Intern, China Air-to-Air Guided Missile Research Institute July 2015

- Studied the general Air-to-Air Guided Missile theoretical design, development process, and technical highlights
- Conferred with engineers to discuss existing or potential engineering projects

Chair of Propaganda Department, Associations' Union of BIT Sept. 2012 – June 2014

Awarded for the Outstanding Student Leader of Associations' union of BIT

- Responsible for organizing and promoting school activities, organized in 2013 BIT Clubs Parade, 2014 BIT North Lake Music Festival, and BIT 2014 associations training and bidding, etc