YONGXIN (Richard) WANG

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Computer Vision Researcher · Software Engineer

Education

Georgia Institute of Technology, Atlanta, GA (GPA: 3.7)   Graduation Date: May 2018
Bachelor's Degree of Science, Computer Science (Threads: Artificial Intelligence, Modeling Simulation)
Bachelor's Degree of Science, Industrial and System Engineering (Thread: Statistics)
Carnegie Mellon University, Pittsburgh, PA   Expected Graduation Date: Dec 2019
Master's Degree of Science, Computer Vision

Publications

➢ "Connecting Gaze, Scene and Attention.", **European Conference of Computer Vision (ECCV) 2018**
   Eunji Chong, Nataniel Ruiz, Yongxin Wang, Yun Zhang, James M. Rehg
➢ "TypoTweet Maps: Characterizing Urban Areas through Typographic Social Media Visualization", **EuroVIS 2017**
   Alex Godwin, Yongxin Wang, John T. Stasko

Related Research Experiences

Computer Perception Laboratory (Professor. Jim Rehg)
Undergraduate Research - Computer Vision   Georgia Institute of Technology, Atlanta, GA   Jan 2017 – May 2018
➢ Simons Project
   • Behavioral analysis of children with autism using computer vision techniques
   • Attention and gaze analysis in the wild using deep learning
      ◆ Built a deep convolutional neural network to estimate human gaze targets and gaze angles in images
      ◆ Annotated human gaze target as in-image and out-of-image for over 120,000 images
      ◆ Performed baseline gaze target estimation using Random Forest and SVM with *skleran*
      ◆ Performed a grid classification of gaze target to compare our results against others using *Python*
      ◆ Visualized results of the gaze target prediction using *Python*
   • Child head pose estimation and visualization with a geometric approach
      ◆ Used child face bounding box detections with OpenPose to detect facial landmarks using *C++*
      ◆ Computed the projection matrix (from a predefined 3D face model to 2D landmarks) with *Python* and *OpenCV*
      ◆ Used the projection matrix to calculate child head poses
      ◆ Visualized child head poses by superimposing the pose axes onto child faces with *Python* and *OpenCV*
      ◆ Wrote *Bash Scripts* and optimized OpenPose detection pipeline to accelerate estimation by 2.2x

Selected Projects

Stanford CS231n
Self-Learned Online Course   Georgia Institute of Technology, Atlanta, GA   Spring 2018
➢ Handcrafted CNN with Batch Normalization and Drop Out for image classification on CIFAR-10 dataset with *Python*
➢ Reproduced a Residual Neural Network with *PyTorch* for image classification on CIFAR-10
➢ Built a vanilla RNN and a LSTM with *PyTorch* for image captioning on Microsoft COCO dataset
➢ Performed image generation based on MNIST dataset by implementing a GAN with *PyTorch*
➢ Experimented image style transfer with GAN using *PyTorch*
Image Processing and Computer Vision
Intro Course in Computer Vision   Georgia Institute of Technology, Atlanta, GA   Fall 2017
➢ Designed a vanilla CNN and fine-tune a VGG Network with *MatConvNet* for scene recognition.
➢ Adopted and implemented the method of Bag of Words for scene recognition in *Matlab*
➢ Experimented face detection with the sliding window technique in *Matlab*

Industry Experiences

Automatic Data Processing (ADP, LLC.)
Software Engineering Internship   2575 Westside Pkwy, Alpharetta, GA   May 2017 – Aug 2017
➢ ADP Service Monitor Tool
   • A *MEAN Stack* web APP under Agile Methodology to monitor the status of ADP web services
   • Designed and implemented backend pipeline to handle user registration, login/logout, continuous service monitoring, and manual service monitoring, using *NodeJS*, *ExpressJS* and *MongoDB*
   • Visualized service status on the front-end with *AngularJS* and *BootStrap*

Technical Skills

Programing Languages: Python, **Java**, **JavaScript**, C++, Matlab, C, C#
ML/Computer Vision Related: PyTorch, **Caffe**, **NumPy**, **OpenCV**, **Sci-kit Learn**, MatConvNet
Web Development: NodeJS, ExpressJS, d3.js, AngularJS, Bootstrap, HTML, CSS
Systems/Platforms: Google Cloud, **Ubuntu**, **Mac OS, Windows**