Fan Zhang

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EDUCATION

- **University of California, Berkeley** — Berkeley, CA
  Master of Engineering in Computer Science; GPA: 3.88/4.00 — Aug. 2018 – May. 2019
  Track:*Visual Computing and Computer Graphics* Advisor:*Allen Y. Yang*
  Relevant Courses: *Deep Reinforcement Learning, Immersive Computing, Virtual Reality, Computer Graphics*

- **Beihang University** — Beijing, China
  Bachelor of Engineering in Information Engineering; GPA: 3.78/4.00 (8/170) — Sep. 2014 – July. 2018
  Relevant Courses: *Digital Image Processing, Computer Vision, Embedded System Design*

SKILLS

- **Coding Skills**: Python, MATLAB, C, C++, C#, Javascript, LaTeX, git, Shell Script, HTML

- **Libraries and Frameworks**: Tensorflow, Pytorch, OpenCV, ROS, Unity3D, OpenGL, OpenMP, WebGL

- **Languages**: Fluent English, Native Chinese

WORKING EXPERIENCE

- **Oracle America, Inc** — Redwood City, CA
  Software Engineer - Oracle Engagement Cloud group — Staring in July 2018
  - Focusing on Customer Relationship Management(CRM) and Customer Experience(CX).

- **University of California, Berkeley** — Berkeley, CA
  Graduate Student Researcher - Center for Augmented Cognition — Aug 2018 - May 2019
  - Working on Immersive Semi-Autonomous Aerial Command System (ISAACS) project, focusing on envisioning new ways for human users to intuitively interface and collaborate with aerial drones around virtual reality technologies.
  - Developing the ROS system to support multi-drone controlling and trajectories planning based *FasTrack* algorithm and achieve real-time communication between Unity3D and ROS. (*C++*)
  - Designing the virtual reality interface in Unity3D to support multi-drone flying interaction like selecting drones, generating waypoints as well as communicating with ROS.(*C#*)

- **Linsens Technology CO., Ltd.** — Beijing, China
  Software Engineer Intern — Mar 2018 - Jun 2018
  - Worked on Automated Optical Inspection(AOI) system to detect flaws for optical lens based on machine vision technology. Combined image processing algorithms (Morphology, Filtering) and deep learning algorithms to detect and classify flaws such as watermark and scratch. (*C++, Python*)
  - Worked on Intelligent Guided Vehicle (IGV) project, cooperated with the research team to build a self-guided driving system on the *ROS* robot to achieve functions such as automated guided driving, object recognition based on imitation learning.(*C++, Python*)

- **Beihang University** — Beijing, China
  Undergraduate Research Assistant - Image and Video Processing Lab — Aug 2016 - Jun 2018
  - Research on visual saliency detection and its application into image segmentation and image compression.
  - Designed software and its interface with Eyetribe API to collect human eye fixation data and analyze them.(*C++*)
  - Developed the dynamic visual saliency detection algorithm with deep neural networks.(*Python*)

RELEVANT PROJECTS

- **Better Bound on Composable Deep Reinforcement Learning** — Sept 2018 - Dec 2018
  - Applied the Soft Q-learning algorithm to combine Q-functions from different tasks into a new Q-function to generate a policy which can do the combination of all training tasks without additional training process. (*Python*).
  - Developed a state-dependent weighted sum algorithm based on Siamese network to classify the novelty of input state for each Q-function of the training task.
  - Designed the reinforcement learning experimental environment based on *Vizdoom* and proved that the proposed method can solve the state distribution mismatch problem and have better results than other composable reinforcement learning problems.

- **Deep-learning based Dynamic Visual Saliency Detection** — Mar 2017 - Jun 2018
  - Constructed a video-based large-scale eye-tracking dataset named *VDT100*, which can be widely used for training and testing deep learning models for dynamic visual saliency detection (**Open Source**). (*Python, C++, MATLAB*)
  - Tested and validated state-of-the-art visual saliency detection algorithms to analyzed human eye fixation preference.
  - Designed and trained a Generative Adversarial Network (GAN) model to detect dynamic visual saliency which combining both pixel-level training and image-level training and achieved state-of-the-art performance.