GU, XIUYE

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EDUCATION BACKGROUND

Zhejiang University, Zhejiang, P.R. China
Bachelor of Engineering in Computer Science expected in June 2017   *Sept. 2013 – Present*
· GPA: 93/100 (3.97/4.0), the third year GPA: 94/100 (4.0/4.0); **Rank 1/189**.

University of California, Davis, CA
Global Research Experience in Advanced Technologies Program (GREAT) July 2016 – Sept. 2016
· GPA: A.

PUBLICATIONS

· **Xiuye Gu** and Chaoqi Wang, Cong Fu, Deng Cai. *A Revisit on Binary Code Learning for Large-scale Content Based Image Retrieval.* The 30th IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017. *Under review.*

· Maheen Rashid, **Xiuye Gu**, Yong Jae Lee. *Interspecies Knowledge Transfer for Facial Keypoint Detection.* The 30th IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017. *Under review.*

RESEARCH EXPERIENCE

Research Intern – University of California, Davis
Advisor: Prof. Yong Jae Lee

Interspecies Knowledge Transfer for Facial Keypoint Detection   *July 2016 – Nov. 2016*
· Proposed a novel deep learning method for localizing animal facial landmarks via K nearest neighbor (KNN) search, thin plate spline warping network and transfer learning; achieved significant improvement especially when training data is scarce.
· Designed the holistic system; selected the pre-trained human model and obtained reasonable baseline results.
· Built a dataset with 3900 images for horse facial landmark detection and developed a landmark annotation tool.

Undergraduate Member – State Key Lab of CAD & CG, Zhejiang University
Advisor: Prof. Deng Cai

A Revisit on Binary Code Learning for Large-scale
Content Based Image Retrieval   *May 2016 – Present*
· Proved empirically the insufficiencies observed in the experimental settings of the state-of-the-art deep hashing methods.
· Proposed a revised experimental setting for better evaluating hashing methods for real content based image retrieval systems.
· Conducted comprehensive experiments under the revised setting to compare three state-of-the-art deep hashing methods with traditional hashing and approximate nearest neighbor search algorithms.
· Verified and analyzed the inferiority of these deep hashing methods.

EFANNA : An Extremely Fast Approximate Nearest Neighbor
Search Algorithm Based on kNN Graph   *Feb. 2016 – June 2016*
· Participated in conducting experiments and contributed to the EFANNA open source library.
· Adopted the Lanczos algorithm, the Boost and CLAPACK library to implement the papers *Anchor Graph Hashing* and *Fast kNN Graph Construction with Locality Sensitive Hashing*; achieved high computational efficiency.
· Implemented multi-threading for the EFANNA open source library via the OpenMP API.
· Designed and implemented the hashing search algorithm for the EFANNA library.

License Plate Recognition System   *Sept. 2015 – Feb. 2016*

- Proposed a robust iterative license plate segmenting algorithm.
- Developed a license plate segmentation system in combination with traditional computer vision approaches; achieved the error rate of 4% on low resolution images.
- Designed and implemented a license detection system with skew and slant correction to provide better source images for the segmentation system.
- Wrote three literature reviews on the topics of license plate detection, segmentation and character recognition.

SELECTED PROJECTS

Curriculum Design Projects, Zhejiang University
Team leader   *June 2014 – June 2015*

- **Connect Them:** Developed a novel news engine in Python based on extensive research, supporting searching by key words and articles and connecting semantic relevant articles with a visual chart.
- **MiniSQL:** Designed and implemented a single-user database system in C++ comprising Buffer Manager, Record Manager, Index Manager, Catalog Manager, API, and Interpreter.
- **ZCC:** Developed an ANSI C compiler in C++ featuring error handling & recovery and optimization, generating 32-bit x86 assembly code (runnable on real computers, no need for virtual machines).

Student Research and Training Program (SRTP), Zhejiang University
Co-developer; Advisor: Prof. Xiaogang Jin   *March 2015 – Nov 2016*

- Developed an Information Subscription Android Application, Influx, which features a self-defined subscription function, allowing users to select and add any list-like sections on web pages to their home-made news library.

Computer Hardware Interest Group, Zhejiang University
Member; Instructor: Prof. Qingsong Shi   *March 2014 – Sept. 2015*

- **Mine Sweeper on FPGA board**: Utilized logical circuit design to implement a salute to the classic mine sweeper game in Verilog HDL with VGA output.
- **Single-cycle and Multi-cycle CPU on FPGA board**: Designed and implemented a single-cycle and a multi-cycle CPU with 23 basic MIPS instructions via schematic design and Verilog HDL.
- **5-stage pipelined CPU on FPGA board**: Designed and implemented forwarding paths, predict-not-taken, and interruption in my pipelined CPU with 18 MIPS instructions.

SELECTED HONORS AND AWARDS

· National Scholarship in China (**1.5%**)	2015, 2016
· First-Class Scholarship for Outstanding Merits (**3%**)	2015, 2016
· Second-Class Scholarship for Outstanding Merits (**8%**)	2014
· Honorable Mention, Interdisciplinary Contest in Modeling Contest	2016
· 2nd Prize, Collegiate Advanced Higher Mathematics Contest of Zhejiang Province	2014
· Excellent Student Awards	2014

SKILLS

Python, C++, C, Caffe, Torch, MATLAB, Lua, Linux Shell, Java,
Android development, Javascript/HTML/CSS, SQL, LaTeX.

EXTRA-CIRRUCULAR

- **Debate Team of School of Medicine:** Participated in the Newborn Cup Debate Competition and the Qizhen Cup Debate Competition.
- **Research on the National Intangible Cultural Inheritance–Northeast Errenzhuan:** Conducted field study of Errenzhuan and proposed new ways for its inheritance and promotion.
- **Member of Student Association of Science and Technology:** Managed the online GEEK station, GEEK*ZJU.