Mincong Zhang

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EDUCATION

University College London 2013-2014
MSc Computer Graphics, Vision and Imaging

Queen Mary, University of London & 2009-2013
Beijing University of Posts and Telecommunications
BSc Telecommunications Engineering with Management
- Double-degree, First Class Honours

WORK

Factset Europe Ltd Jan-now, 2015
Working in the Marketdata department
- Raw data decoding, processing, transmitting and storage
- Real time speed, fault tolerance and reliablity
- C++, Boost and multithreading

3D RELATED PROJECTS

MSc Thesis: 3D retrieval system (C++, OpenGL, OpenMesh) Jun-Sep, 2014
A shape-based "Scan to Search" retrieval system [1]
- Aiming to search for similar models with scanned noisy 3D models
- Using spherical harmonics and shape histograms to describe 3D shapes

Internship in 3D Industri.es (C++, OpenGL, OpenMesh) Nov-Dec, 2014
Helped to improve a "Partial Search" 3D retrieval system
- Built a experimental retrieval system:
  Retrieval results based on multiple queries [2]
- Helped to improve their retrieval system

Code Jam: Oculus' Mobile VR Jam 2015 (C#, Unity3D) Apr-May, 2015
A 2-player VR game "Code-X", including zombie survival, room escaping and loads of player collaboration [3]
- Implemented most of the scenes and their interaction with the player
- Imporved and refactored the zombie AI & the player shooting code

Coursework: 3D Geometry (C++, OpenGL, OpenMesh) 2014
- A "Sketch to Search" 3D retrieval system:
  matching histograms of 2D sketch to 3D objects' light-field-silhouettes [4]
- 3D denoising: Bilateral filter, Laplacian smoothing, etc.
- ICP alignment: reconstructing 3D surfaces from different scans

Coursework: Computer Graphics (C++, OpenGL) [5] 2014
- Implemented Ray Tracing, Clipping, Robot Modelling and Splines

Coursework: Machine Vision (Matlab) 2014
- Augmented Reality tracking
- Color Based Object Detection (EM algorithm), Panorama, etc.

[1] "Scan to Search" with video demo: github.com/mincongzhang/3D_Retrieval_scan2search
[2] "Partial Search" with video demo: github.com/mincongzhang/3D_Retrieval_PartialSearch
[3] "Code-X" with video demo: challengepost.com/software/code-x
[4] "Sketch to Search" with video demo: github.com/mincongzhang/3D_Retrieval_sketch2search
[5] Computer Graphics repo: github.com/mincongzhang/ComputerGraphics

INTERNSHIP

Ericsson - Region North East Asia (RNEA) Apr-Aug, 2013

Worked in a Cross Function Team in Development Unit for IP & Broadband department

- Project 1: Imported a web server (based on https protocol) into PT router
  - I developed the frontend website framework
  - Applied Ajax and Json, and focused on the cross-browser ability
- Project 2: White box test for IP Operating System(IPOS)
  - Unit test: applied Google C++ Testing Framework
- Project 3: Black box test for Quality of Service (QoS)
  - Perl scripting to verify the Congestion Avoidance functions on SP switch

RESEARCH

BSc Thesis: The influence of amplifier settings on the perception of 'heaviness' in guitar timbre [6] Nov, 2013

Aiming to objectively measure the relationship between amplifier settings and the perception of 'heaviness'

- Results contributed to the fields of emotion detection in music and genre
- More than 900 users (UK & China) participated in the web listening test
- Python scripting, website building (Django), database (SQLite), signal processing (Matlab), algorithm design

HACKATHON

Factset Internal Hackathon Apr, 2015

Detecting lunch delivery bags in the kitchen (with Raspberry Pi & camera)

- I implemented the algorithm to detect bags in images
- Algorithm is robust to noise and moving objects (e.g. people passing-by)

Factset Monthly Mini Hackathon 2015

Boggle game, Scrabble game, etc.

J.P. Morgan and the Code for Good Challenge Nov, 2013

An android app to collect customer information for micro-finance firms

- I implemented part of the frontend User Interface
- Joint runners-up team

PERSONAL PROJECTS

CpuPlayer:
- Try to play anime with CPU curves in Windows Task Manager [7]

Realtime AR:
- Detect background and reconstruct 3D model in realtime

AutoComposer:
- Music has rules, trend, and repeats

Trie tree:
- inspired by hackathon and try to implement my own

MorsecodeGenerator:
- Type in words and generate Morse code sounds for fun

. . . [8]

INTERESTS

Guitar (Blues, Metal), Hardcore Gamer (GTA, Manhunt, Dark Souls, SCP173, etc) Anime, Tennis, Jitsu

[6] Bsc Thesis: github.com/mincongzhang/UnderGradFinalProject

[7] "CpuPlayer" with video demo: https://github.com/mincongzhang/CpuPlayer

[8] Most of my projects : github.com/mincongzhang