FENGYAN ZHANG

MSc Geomatics student at TU Delft

@ F.Zhang-12@student.tudelft.nl • Delft 2628PZ, Netherlands zfengyan
 fengyan-zhang-224577241

About Me

A dedicated geomatics student with a good foundation in programming and modeling skills, including C++, Python, and 3D modeling. Eager to further learning and skills through a Ph.D. position.

MAIN PROJECTS

- **BIMConvertToGeo**: Convert a building information modeling (BIM) model, specifically an industry foundation classes (IFC) file, into a CityJSON file.
- **geoCFD**: Preprocess the geometry for CFD simulation - remove internal faces between adjacent buildings. This is developed as the Nef Polyhedra method for the MSc Geomatics Synthesis Project facesBgone.
- **Reconstruct 3D Geometry**: 3D geometry reconstruction based on the open-source project - Easy3D.
- **Spatial interpolation**: Implementation of Nearest Neighbor (NN) / Inverse Distance Weighting (IDW) / Triangulated Irregular Network (TIN) and Laplace interpolation.
- **LCP Runoff modeling**: Implementation of the least cost path algorithm (LCP) for calculating flow direction and flow accumulation.
- **Camera Calibration**: Implementation of performing camera calibration based on the open-source project - Easy3D.
- **Kmeans clustering**: Implementation of K-means clustering classification based on the point cloud data.
- **Ground Filtering**: Implementation of Cloth Simulation Filter algorithm (also with verlet integration) based on the point cloud data.
- **CityJSON**: Implementation of calculating building volumes, number of building floors, area, and orientation of roof surfaces based on CityJSON files.
- **Generalized Map**: A possible implementation of generalized map.

EXTRACURRICULAR EXPERIENCES

Operation Management Department Intern

Northwest Regional Corporation, Radiance Group

 Jul. 2020 – Sep. 2020 • Xi'an, China

- Participated in the supervision and coordination of each section of projects.
- Was responsible for the statistics of the company's land reserves, resources, fiscal year plan and other related information.
- Followed up on the main rate of progress of major projects, analyzed risks, completed, and submitted the final reports.

Trnasport Office Specialist Intern

Gansu Jinchang Transportation Authority

 Mar. 2019 – Jun. 2019 • Jinchang, China

- Wrote daily materials, concluded, and analyzed survey data.
- Coordinated with other government departments, including Land Resources Bureau and Forestry Bureau, and arranged meetings.

EDUCATION

MSc in Geomatics

Technische Universiteit Delft

 Sep 2021 – Present • Delft, Netherlands

Exchange student in Geographic Information Science and Cartography

University of Minnesota

 Jul 2019 – Aug 2019 • Minneapolis, USA

BSc in Geographic Information Science

Southeast University

 Sep 2017 – Jun 2021 • Nanjing, China

GPA: 3.25/4

STRENGTHS

Programming skills

Skillful in C++ and Python; familiar with Java, JavaScript, HTML and SQL. Experienced in using CGAL(The Computational Geometry Algorithms Library), GDAL(Geospatial Data Abstraction Library), and other widely-used libraries such as LASTools (for point cloud), nlohmann-json (JSON for Modern C++), etc. Experienced with making cross-platform projects, such as programming under Windows Subsystem for Linux (WSL) using CMake.

Computer software

Visual Studio, Visual Studio Code, CLion, QGIS, ArcGIS, Google Earth Engine (online), MeshLab, CloudCompare, PostgreSQL, etc.

Communication skills

Fluent in English, the IELTS score at the time of master's admission is 6.5 (with at least 6.0 or more in each part). During the study of the Geomatics Programme at TU Delft, I've finished multiple reports written in English (such as project reports, course essay, etc.) In addition, I also delivered numerous presentations which have (I believe) improved my public speaking skills.

- Assisted the department to organize the large speech competition "Building Civilized Jinchang", and wrote relevant scripts.

Project Manager
Southeast University

📅 Sept. 2018 – Dec. 2019   📍 Nanjing, China

- Compared and analyzed traffic management mode in the university campus in Nanjing.
- Was responsible for the external contacts and communicated with campus security offices in universities in Nanjing.
- Collected information about campus traffic management rules.
- Designed survey questionnaires and distributed them in other universities.
- Processed and analyzed collected data, and drew significant conclusions.
- Provided feasible suggestions about campus traffic management for other universities based on the results.

Project Manager
Southeast University

📅 Sept. 2018 – Dec. 2019   📍 Nanjing, China

- Designed investigation questionnaires and collected relevant data.
- Communicated with Nanjing Metro Corporation to obtain highly-accurate passenger flow volume data.
- Analyzed and summarized various data and wrote the research report, and made the final presentation slides.

Student Volunteer
Young Volunteers Association, School of Economics & Management, Southeast University

📅 Mar. 2019 – Jul. 2019   📍 Nanjing, China

- Led the volunteer group to regularly conduct classroom communication in Nanjing Chengxian Primary School.
- Planned and presented the speech content, and communicated the speech time and approach with staff at the primary school.
- Awarded as the "Outstanding Volunteer".

Student Member
Students' Union, School of Transportation, Southeast University

📅 Sep. 2017 – Jul. 2018   📍 Nanjing, China

- Was responsible for the statistics and management of event materials and ensured the materials were in place.
- Reviewed the event process and summarized problems after events.
- Awarded as the "Student Union Outstanding Officer".

Native in Chinese, and have a strong interest in Spanish.

REFEREES

Hugo Ledoux (Associate Professor)
@ 3D geoinformation research group
✉ h.ledoux@tudelft.nl
BG.West.550
Faculty of Architecture and the Built Environment
Delft University of Technology
Julianalaan 134, Delft 2628BL, Netherlands

Liangliang Nan (Assistant Professor)
@ 3D geoinformation research group
✉ liangliang.nan@tudelft.nl
BG.West.550
Faculty of Architecture and the Built Environment
Delft University of Technology
Julianalaan 134, Delft 2628BL, Netherlands

Ken Arroyo Ohori (Lecturer and Researcher)
@ 3D geoinformation research group
✉ k.ohori@tudelft.nl
BG.West.550
Faculty of Architecture and the Built Environment
Delft University of Technology
Julianalaan 134, Delft 2628BL, Netherlands

QUALITIES

Committed   Diligent   self-motivated

HOBBIES

Piano   Sports   Reading
Music   Writing novels