Ruiqi Ni

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EDUCATION

Florida State University, Tallahassee, FL, USA
M.S. in Computer Science — Aug 2019 – Present

University of Science and Technology of China, Hefei, Anhui, China
B.S. in Information and Computing Science — Sep 2014 – Jun 2018

RESEARCH INTEREST

Physics-based Simulation
Geometry Processing
Trajectory Optimization

PUBLICATION

"Robust & Asymptotically Locally Optimal UAV-Trajectory Generation Based on Spline Subdivision",
Ruiqi Ni, Teseo Schneider, Daniele Panozzo, Zherong Pan, Xifeng Gao,
IEEE International Conference on Robotics and Automation (ICRA 2021).

"Progressive Parameterizations",
Ligang Liu, Chunyang Ye, **Ruiqi Ni**, Xiaoming Fu,
ACM Transactions on Graphics (SIGGRAPH 2018).

RESEARCH EXPERIENCE

Florida State University
Research Assistant — Aug 2019 – Present
Advisors: Prof. Xifeng Gao

- Project: **ADMM in Multi-Agent Trajectory Optimization**
  - Utilized separating hyperplane to make a successive convexification for non-convex collision constraint.
  - Proposed a variant of alternating direction method of multipliers (ADMM) to solve trajectory optimization via separating objective function and constraint.
- Project: **Unmanned Aerial Vehicle Trajectory Optimization**
  - Proposed an asymptotic optimality trajectory optimization method to deal with high order continuous collision detection.
  - Explored convergence of collision constrained optimization with incompatible maximum linear search step.

University of Science and Technology of China
Undergraduate Research Assistant — Sep 2017 – Jun 2018
Advisors: Prof. Ligang Liu and Dr. Xiaoming Fu

- Project: **Progressive Parameterizations**
  - Developed a novel method to progressively optimize distortion energy with high efficiency and robustness in mesh parameterizations.

WORK EXPERIENCE

Adobe Research
Research Intern — May 2021 – Aug 2021
Advisor: Dr. Kevin Wampler

- Project: **Constrained Vector Graphics Editing**
  - Developing better optimization tools for vector graphics editing with multiple prioritized constraints.

SERVICES

- **Reviewer**
  Visual Computer

SKILLS

- **Programming Languages**
  C / C++, C#, Matlab, Python
- **Software**
  Unity3D, Blender, Rhino