

Joshua Springer

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Education

PhD, Computer Science

Reykjavik University

August 2022 - Current

Reykjavik, Iceland

Publications:

- *IEEE International Conference on Robotic Computing (IRC): Joshua Springer and Marcel Kyas. Autonomous Drone Landing with Fiducial Markers and a Gimbal-Mounted Camera for Active Tracking.* 2022. doi: **10.48550/ARXIV.2206.04617**
- *IEEE IRC New Frontiers in Computational Robotics Workshop: Joshua Springer and Marcel Kyas. Evaluation of Orientation Ambiguity and Detection Rate in April Tag and WhyCode.* 2022. doi: **10.48550/ARXIV.2203.10180**
- *IEEE IRC PhD Workshop: Joshua Springer. Autonomous Multirotor Landing on Landing Pads and Lava Flows.* 2022. doi: **10.48550/ARXIV.2211.06332**
- *Encyclopedia with Semantic Computing and Robotic Intelligence: Joshua Springer and Marcel Kyas. Autonomous Drone Landing: Marked Landing Pads and Solidified Lava Flows.* 2023. doi: **10.48550/ARXIV.2302.00786**

Double MSc, Computer Science

Reykjavik University

September 2018 - May 2020

Reykjavik, Iceland

Mälardalen University

Västerås, Sweden

- *Thesis: Joshua Springer. Autonomous Landing of a Multicopter Using Computer Vision.* 2020. URL: **<http://hdl.handle.net/1946/36422>**
- Developed ROS modules to autonomously land simulated drone while actively tracking multiple kinds of fiducial markers in Gazebo 9.

BSc, Computer Engineering

Louisiana State University

August 2011 - December 2016

Baton Rouge, United States

BA, French Language

Louisiana State University

August 2011 - December 2016

Baton Rouge, United States

Work Experience

2022 Fieldwork

RAVEN, NASA, JPL

July 2022

Dreki & Holuhraun, Icelandic Highlands

- Collected terrain data from a drone-based stereo depth camera over Holuhraun lava flow.
- Executed manual and autonomous drone missions in the field.
- Assisted in collection of LIDAR terrain data and doppler LIDAR dust data from drone propeller wash.
- Assisted in collection of hyperspectral data describing chemical makeup of various locations of interest.
- Cooperated with interdisciplinary team of geologists and planetary scientists to set up and tear down camp, long-range WiFi connection.

2021 Fieldwork

RAVEN

July 2021

Fagradalsfjall Volcanic Eruption

- Assembled heavy-lift drone with thermal camera (FLIR A615), collected thermal data over active lava flow
- Featured on BBC Click: **<https://www.bbc.co.uk/programmes/p09r8nzw>**

IT Analyst, Integration Development

LSU Information Technology Services

February 2017 - August 2018

Baton Rouge, United States

- Created, and managed production deployment of reports and integrations in Workday and other platforms.
- Administered and maintained integration platform servers.
- Communicated with clients and team for requirements and troubleshooting.
- Created and optimized simple to complex SQL queries and tables.

System Administration Team Member

LSU High Performance Computing Services

January 2016 - December 2016

Baton Rouge, United States

- Managed computational loads on 6 RHEL supercomputing clusters.
- Performed cluster-wide software upgrades and hardware repairs.
- Troubleshoot hardware issues and carried out repairs.

Skills

Programming Python (Pandas, PyTorch, NumPy, SciPy), C++, Embedded C, SQL.

Miscellaneous Linux, Bash, \LaTeX , Git.

Soft Skills Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Languages English: Native, French: B1