Joshua Springer

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Education

PhD, Computer Science *August 2022 - Current*

Reykjavik University Reykjavik, Iceland

Publications:

- *IEEE 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
- *NFCR 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
- *PhD Workshop:* Joshua Springer. *Autonomous Multirotor Landing on Landing Pads and Lava Flows*. 2022. DOI: 10.48550/ARXIV.2211.06332

Double MSc, Computer Science *September 2018 - May 2020*

Reykjavik University 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 *August 2011 - December 2016*

Louisiana State University Baton Rouge, United States

BA, French Language *August 2011 - December 2016*

Louisiana State University Baton Rouge, United States

Work Experience

2022 Fieldwork *July 2022 (4 weeks)*

RAVEN 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.

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IT Analyst, Integration Development *February 2017 - August 2018*

LSU Information Technology Services Baton Rouge, United States

- Created, tested, automated, and managed production deployment of reports and integrations in Workday and other platforms.
- Administered integration platform servers, permissions, connections, users, integrations, schedules, and maintenance.
- Communicated with clients and team for specifications, requirements, and troubleshooting.
- Created and optimized simple to complex SQL queries and tables.

System Administration Team Member *January 2016 - December 2016*

LSU High Performance Computing Services Baton Rouge, United States

- Managed computational loads on 6 RHEL supercomputing clusters.
- Performed cluster-wide software upgrades and hardware repairs.
- Troubleshot 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: C1