

Jonathan Lurie

Sr. Scientific Software Engineer — Computer Graphics & Image Processing

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WORK EXPERIENCE

Sept. 2018 - now

École Polytechnique Fédérale de Lausanne, Blue Brain Project (Prof. H. Markram)
Senior Scientific Software Engineer, Computer graphics - Genève, Switzerland
Design, architecture and development of the Blue Brain Atlas, a platform to enable scientific collaboration and sharing of spatially referenced brain datasets

[Javascript](#) [Python](#) [WebGL](#) [JSON-LD](#) [Linear Algebra](#) [Graph Database](#)

June 2016 - June 2018

McGill Center For Integrative Neuroscience (Prof. A. C. Evans)
Scientific Software Engineer, Computer graphics - Montreal, Canada
Development of tools for web-based brain data processing and visualization (MRI, fMRI, EEG, BigBrain)

[Javascript](#) [Python](#) [WebGL](#) [Signal Processing](#) [Linear Algebra](#)

March 2015 - May 2016

Freelancing and self-training on web technologies

Chicoutimi, Canada

[Javascript](#) [Node](#) [C++](#) [WebGL](#) [Cartography](#) [AWS](#)

Sept. 2011 - Dec. 2014

Thales

Scientific Software Engineer, Remote Sensing, Image Processing - Toulouse, France
Ground segment software development for satellite Earth observation imaging with Pleiades Missions (Thales, CNES, ESA)

[C++](#) [Python](#) [Signal Processing](#) [Image Processing](#) [OTB/ITK](#) [GIS](#)

Sept. 2010 - Aug. 2011

Gaiddon Software

Scientific Software Engineer, Remote Sensing, Image Processing - Toulouse, France
Toolbox development for aerial image processing in order to "skin" Microsoft Flight Simulator with realistic ground surface

[C++](#) [Image Processing](#) [Signal Processing](#) [GIS](#)

March. 2010 - Aug. 2010

CS, Communication & Software (intern, 6 months)

Scientific Software Developer, Remote Sensing - Toulouse, France

R&D satellite image processing: implementing spectral detection algorithms to classify grounds (geological, ecological, industrial, etc.)

[C++](#) [Image Processing](#) [Signal Processing](#) [OTB/ITK](#) [GIS](#)

EDUCATION

2008 - 2010

Master in Bioinformatics

University of Fundamental and Applied Science - Poitiers, France

Major: Software Engineering — Minor: Medical Image/signal Processing

2007 - 2008

License in Bioinformatics

University of Fundamental and Applied Science - Poitiers, France

Major: Software Engineering — Minor: Medical Image/signal Processing

2005 - 2007

Bachelor in Life Science

University of Science and Technology - La Rochelle, France

TECHNICAL SKILLS

<i>Programming Languages</i>	Javascript/NodeJS, Python, HLSL (shader), C/C++, CSS, JSON-LD, Markdown
<i>Programming Libraries</i>	Math and Signal Processing: Numpy/SciPy, ITK/OTB, OpenCV, GDAL/OGR, PIL Graphic Rendering: WebGL, ThreeJS, BabylonJS Plot: Matplotlib, D3, ChartJS, SVG API (HTML5) Cartography: MapboxGL, Leaflet Web Frameworks: React, Express, Svelte Database: MongoDB, MySQL Electronics: Arduino, Raspberry Pi
<i>Scientific Interests</i>	Brain and medical imaging and formats, linear algebra, signal processing, image processing, statistics, trigonometry, graph database, data modeling. I am also interested in computational geometry, image decomposition (i.e. wavelet), creative coding, cartography and map projection. I enjoy learning how file formats work and to design efficient binary serializations.
<i>Other Tools and Platforms</i>	Git/Github, AWS, Electron, Nginx, Ubuntu, Ubuntu Server, CentOS, MacOS

ADDITIONAL PROFESSIONAL SKILLS

- Team Player
- Software architecture design
- Implementing algorithms from scientific publications
- Working with a large amount of data, with performance in mind
- Writing parsers for binary formats
- Writing technical documentation (user guides, cookbooks)
- Writing bids response (technical parts)

ADDITIONAL INFORMATION

<i>Language</i>	French (native speaker), English (fluent)
<i>On the web</i>	Personal website: http://me.jonathanlurie.fr GitHub: https://github.com/jonathanlurie LinkedIn: https://www.linkedin.com/in/jolurie Twitter: https://twitter.com/jonathanlurie
<i>Hobbies</i>	Road cycling, photography and darkroom, hiking, cartography, map design, coding for side projects, learning piano