JONATHAN LUNG, PHD

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EXPERIENCE

KEPLER COMMUNICATIONS

Principal Software Designer – Jul 2023-Present

Software Development Management – Jul 2020-Jul 2023

Senior Software Developer – Aug 2019-Jul 2020

Software Developer – Feb 2019-Aug 2019

- Driving IP-first strategy to building the Internet in space.
- Grew software team from 3 to over 18 individuals by streamlining hiring process and creating specialties including embedded, devops, frontend positions, and networking positions enabling meeting development timelines.
- Architect high-availability and scalable space asset automation system for heterogenous platforms (ground and space) deployed to hybrid cloud that controls Canada's largest satellite network: 22 satellites and counting.
- Designing win-win solutions to software that provide better user experiences while reducing time to market.
- Develop and refine processes within the team and at the corporate level to improve quality, productivity, and job satisfaction.
- Led quality practices including adoption of static analysis tools, reproducible builds, and company-wide single-source of truth tooling; Kepler's first on-board software applications contained no critical bugs.

SOJOURN LABS

Co-founder + Software Developer – 2013-2019

- Develop realtime safety-critical firmware and physics model for self-balancing vehicle.
- Develop novel variants of algorithms for embedded systems including topological sort.
- Conduct failure mode and effects analysis (FMEA); create software-based corrections or mitigations for identified electrical and mechanical issues.

EDUCATION

UNIVERSITY OF TORONTO

PhD, Computer Science – 2007-2017

- Design novel interactions for collaborative end-user software engineering tools.
- Develop data visualizations for reducing cognitive bias in human decision making.

Lecturer – 2007-2015

- Teach topics like programming, data structures, algorithms, and software engineering.
- Manage teams of 15+ teaching assistants for classes over 1000 students in size.
- Advance pedagogical techniques used in the classroom and in massive open on-line courses, including those used in university's first Coursera course offering.

MSc, Computer Science – 2006-2007

- Build non-fungible token framework in proto-blockchain environment for offline devices.
- Evaluate epistemological implications of replications of social experiments.

BSc, Human-Computer Interaction/Human Biology/Psychology – 2003-2006

- Executive member of various organizations including the three largest at Trinity College.
- Selected by faculty to be the official computer science peer mentor at Trinity College.

AWARDS

ON-TREPRENEUR FELLOW, ONTARIO BRAIN INSTITUTE – 2015

- Develop adaptive and rehabilitative technology for hemiparesis and spastic motion.

UNDERGRADUATE SCIENCE RESEARCH AWARD, NSERC – 2006

- Combine computational linguistics methods to identify semantically similar content.
- Design polyglot programming language substrate for domain-specific languages.