KEVIN LYONS

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Engineer focused on building scalable software to improve user experience and create real change.

EDUCATION

- Massachusetts Institute of Technology | 4.5 GPA, B.S. Computer Science   06.2020
- **Courses:** Algorithms, Computational Structures, Machine Learning, Mathematics for C.S.
- **Around campus:** MIT football player; fraternity community service chair; high school student mentor

- Weymouth High School | Valedictorian   06.2016
- **Leadership positions:** NHS President; Varsity Math Team, Football and Basketball Captain

PROFESSIONAL EXPERIENCE

- Data Science Intern | Philips Research America, Cambridge, MA   05.2017-08.2017
Worked with research team to implement deep learning pipeline for lung cancer image analysis.
- **Data analytics:** Streamlined data from CSV/XML/image formats to common HDF5 data structure
- **Scalable product:** Wrote HDF5 data loader in Python for fast I/O of 20K+ lung nodule crops with preprocessing extensibility and documentation
- **Machine learning:** Evaluated deep 2D CNN's for multi-label lung nodule classification use case
- **IP generation:** Authored invention disclosure for ML-based clinician support system w/ MGH (Boston)

- Research Software Engineer | CityScope @ MIT Media Lab, Cambridge, MA   09.2016-08.2017
Assisted Master's Thesis seeking improved data-driven city space allocation for urban planners.
- **Agent-based modeling:** Optimized multi-agent Java simulation of 24 hr. to 45 sec. runtime
- **Data handling:** Generated train/test sets of 10K+ cities for supervised learning with JSON and Python
- **Machine learning:** Utilized linear regression and shallow CNN for traffic and solar radiation prediction
- **Visualization:** Created visualization scripts in Java to show heat maps of 16x16 city matrix grids

- Full Stack Software Engineer Intern | LifeYield, Boston, MA   05.2015-08.2016
Served as agile developer for front-end web fixes and in-house monitoring for financial firm.
- **Back-end optimization:** Sped up all web service calls by 40% via improved XML serialization and processing
- **In-house dev-ops:** Deployed log monitor with C# to connect cloud computing environment with Splunk server and SQL database

PROJECTS

- WildcatConnect iOS App | wildcatconnect.com   05.2015-Present
Founder and lead developer of productivity app for Weymouth HS. 2016 #1 Senior Project Award.
- **User experience:** Integrates push notifications of key events and custom groups for students
- **Security:** Built on AWS-hosted Express Node.js server with tiered user levels and two-factor e-mail authentication
- **Workflow integration:** Connects directly to staff e-mail service with simple iOS app and website
- **Public reception:** Used for 3+ years by 6,000+ users, with interest in expansion to other schools

- Crime-Traffic Correlation via Unsupervised Learning | github.com/kalyons11/6.s097-project
Member of class project to relate crime activity to traffic flow in dense urban environments.
- **Data visualization:** Overlaid results from K-means clustering algorithm on Boston city map data

LANGUAGES

Advanced: Python, Java | **Proficient:** JavaScript, C#, HTML, CSS | **Beginner:** C, C++, SQL