

Alexander "Lex" Adams

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Software Development professional with proven ability to deliver a full-featured software product from concept to market. Experience and expertise in architecting robust solutions, building and leading development teams, and hands-on development work focused on extract, transform, load and machine learning systems.

EXPERIENCE

Lead Developer / Founder, Crimer LLC - Baton Rouge, LA 2017 - Present

Founded software company based on an award-winning class project and developed a patent-pending process using AI to automate extraction of crime data from news articles, social media, and police radio to predict crimes. Built and managed a team of 12 software engineers, web developers, designers, data scientists, security researchers, and network specialists.

- Pitched initial concept for Crimer to advisory board of tech company representatives at LSU.
- Developed ability for Crimer to extract data from the surface web (weather, weapon use, time, property value, terrain model, population, etc.) and predict coordinates using multi-label regression algorithms.
- Lead "Project Darkwing" product that captures Tweets originating in the US and uses deep learning to determine if the Tweet is related to a petty crime incident.
- Utilized machine learning techniques from various algorithm collections, including Meka, Weka, Keras, and NLTK, and used MariaDB to scale crime forecasting.
- Developed context-sensitive extraction module to parse boilerplate language in news articles to improve ability to predict and classify crime in localized areas.

Sales Associate, RadioShack - Baton Rouge, LA 2012 - 2017

- Advised clients as a technical expert on mobile phone software and small components (e.g. capacitors, LEDs).
- Repaired mobile devices and assisted university employees in the electrical engineering department with selecting components and designing systems.

PROJECTS

- **Audio Transcription Extraction Project** (2019) Led team in transcribing audio output stream from police radio scanner on a Raspberry Pi to extract real-time crime incident data using NLTK.
- **Predicting Crime Using News Articles** (2018) Conducted research and drafted paper to highlight use of natural language processing to extract crime incidents from news articles.
- **Data Structures Implementation** (2018) Created an original decrease-and-conquer topological ordering algorithm.
- Other projects: Developed solution to calculate numerical values for the unknown of a Poisson equation with Dirichlet boundary conditions using the 5-point scheme. Implementations of Prim's MST algorithm using a binary heap, a context-free grammar algorithm CYK, and a file system from scratch using inodes.

SKILLS

Programming: NumPy, SciPy, SQL, Python, C, C#, MATLAB, Java, HTML5, CSS, JavaScript, Bash

Machine Learning: Keras, TensorFlow, Weka, Meka, NLTK

Data: MySQL, MariaDB, Hadoop, Boilerope, OpenWeatherMap, OpenStreetMap

Tools/Other: Spring, Unity, Git, GitLab, JetBrains, GIMP, BitTorrent, Ubiquiti, Windows, MacOS, Linux, Cloud Computing

EDUCATION

BS Computer Science (Data Science concentration), Louisiana State University (May 2019)

- Major GPA: 3.61/4.00, Dean's List (Spring 2018), President's List (Spring 2019)
- Member, Association for Computing Machinery; Member, Linux Foundation; Member and Judge, National Speech and Debate Association/National Catholic Forensic League; Volunteer, Project Uplift/Companion Animal Alliance

Machine Learning, Stanford via Coursera (exp Oct 2019)