

# DARSH SHALIN SELARKA

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## EDUCATION

**Indiana University**, Bloomington, IN

**Dec 2020**

**B.S. Computer Science** | *Specialization Data Science* | *Luddy School of Informatics, Computing, and Engineering*

*Relevant Coursework:* Data Structures, Object-Oriented Programming, Artificial Intelligence, Data Analysis & Mining, Analysis of Algorithms, Discrete Mathematics, Theory of Computing, Multivariable Calculus, Database Management Systems, Functional Programming

## TECHNICAL SKILLS

**Programming:** Java, Python, C, C#, C++, HTML5, CSS3, JavaScript, SQL (MySQL, SQLite), NoSQL (PostgreSQL), PHP, R, Swift  
**Frameworks/Libraries:** Django, React, Struts, Codeigniter, Flask, Tensorflow, PyTorch, Numpy, NLTK, Tkinter, pandas, GraphQL  
**Software Engineering:** Data Structures & Algorithms, Object-Oriented Programming, REST APIs, Unit Testing (JUnit), SDLC, VCS  
**Tools:** Visual Studio Code, Linux, IntelliJ, Android Studio, Unity3d, XCode, RStudio, Jupyter Notebook, heroku, git, Apache Tomcat, MySQL Workbench, XAMPP, phpMyAdmin, Cloudflare Workers

## WORK EXPERIENCE

**Luddy SICE (UROC), Indiana University, Bloomington, IN** (*Research Assistant*)

**Jan 2020 - May 2020**

- Built a dataset to understand quadruped animal actions from more than 100 videos
- Assisted in annotating 8000 images of 9 different quadruped animals using LabelMe into JSON format
- Explored Convolutional Neural Networks (CNN) to classify the images to different animal groups

**Serve IT, Indiana University, Bloomington, IN** (*Teach IT Intern*)

**Jan 2020 - May 2020**

- Enhanced technical communication and presentation skills by presenting fundamental concepts of Computer Science in front of a classroom of over 30 students on a weekly basis
- Fostered student learning through hands-on activities and improved overall engagement at Girls Inc, a local non-profit organization

**Trimax IT Infrastructure & Services Limited, Mumbai, India** (*Software Engineer Intern*)

**Feb 2018 - April 2018**

- Developed a project to simplify payments by integrating Paytm API with webapp to process online payments using UPI gateway
- Implemented Struts framework in which the Model is a combination of EJB and Java classes, View uses JSP pages along with struts tag library, and Controllers are Servlet
- Successfully performed unit tests and acquired functional overview of Java and various phases of Software Development Life Cycle

**ThinkJain, Mumbai, India** (*Software Engineer Intern*)

**Mar 2017 - June 2017**

- Utilized Django framework, Python to design a server application and client interface for an online Job Portal
- Collaborated with a team to design the MVC pattern using UML diagrams for the application
- Successfully incorporated features such as filtering jobs based on user preference and session management using middleware

**RIIDL Organization, Mumbai, India** (*Software Engineer Intern*)

**Nov 2016 - Jan 2017**

- Developed an Internet of Things based street light monitoring system along with LDR sensors for my university to save energy
- Implemented PHP to handle the backend development; made a CRUD utility using the Codeigniter framework and MySQL database
- Slashed electricity cost of the test area by nearly 20% from executing the project over a period of 2 months
- Acquired hands-on experience with REST APIs, MySQL, and formulated a strategy to drive adoption of AWS

## PROJECTS

- Covid-19 Chatbot** - Developed a retrieval based chatbot in Python to educate the user about the Coronavirus pandemic by answering frequently asked questions using Natural Language Processing (NLTK), Keras, and by utilizing a special Recurrent Neural Network LSTM (Long Short-Term Memory) for a response, and the Tkinter library to build the GUI (*May 2020*)
- Tilty** - Developed a game on iOS platform using Xcode and Swift which uses the gyroscope for gameplay by using Core Motion. Built the UI using SpriteKit and kept track of high scores using a table view controller along with persistent data storage using NSCoding (*April 2020*)
- Ultimate Tic Tac Toe** - Developed a 9x9 version of the popular Tic Tac Toe game using python and programmed AI agent for it by implementing the Monte-Carlo algorithm, and Minimax algorithm along with Alpha-Beta Pruning (*Dec 2019*)
- Survival RPG** - Developed a full 2D top-down survival role-playing game in Unity which incorporated Object-Oriented methodologies in C# and pathfinding algorithm (Manhattan Distance) for the AI agent (*Dec 2019*)
- House Price Detection** - Predicted House Price on the Zillow house price dataset from Kaggle with an accuracy of 91% by using the TensorFlow machine learning framework and NumPy, Matplotlib (*Sept 2019*)
- Gabb** - Developed a real-time messaging application for Android using Android Studio and Firebase platform (*Oct 2017*)

## LEADERSHIP & EXTRACURRICULAR EXPERIENCE

**International Sports Club, Indiana University, Bloomington, IN, United States** (*Vice President*)

**Aug 2019 - Present**

- Organized and managed the Futsal World Cup 2019 and various other intramural competitions for the global community comprising around 100+ students and faculty at Indiana University

**JPMorgan Chase & Co. Virtual Internship Experience, United States** (*Software Engineer Intern*)

**May 2020**

- Successfully completed the virtual internship program by establishing financial data feeds in Python, and made a data visualization tool for the traders with React framework and by implementing JPMorgan's open source tool, perspective

**Computer Society of India (CSI) Council, Mumbai, India** (*Jt. Technical Head*)

**Aug 2015 - Aug 2017**

- Convened and presented workshops on Machine Learning, Android Development, and Cordova Development for a footfall of over 200 people for each workshop