

Akhil Krishna Mohan



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<https://www.github.com/nimberledge>
LinkedIn Profile
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EDUCATION

2017 - 2021	B.Sc Mathematics & Computer Science <i>University of Illinois Urbana-Champaign</i>
2021 - 2022	M.Sc Applied Computational Science & Engineering Department of Earth Sciences and Engineering <i>Imperial College London</i>

PROJECTS

Junto

Worked with Prof. Mariana Silva to build a tool to allot senior design teams for final year students based on student preference. Implemented a genetic algorithm to solve the maximization problem, and made the program accessible by building a web-app. Researched, optimized, and parallelized a backend server capable of efficient processing. Authored a paper to document the efficacy of the approach used.

GAIME

Led a team to develop a system of generalized board game AI, via a library of functions that allows a user to make games and add AI with minimal effort. Researched, studied, modified, and implemented several AI algorithms such as Minimax (with alpha-beta pruning) and Monte Carlo Tree Search.

RESEARCH

PUBLICATION	<i>Introducing junto, a Web Tool to Build Project Teams based on a Bidding Strategy</i> American Society for Engineering Education 2020
POSTER	PURE Research Symposium University of Illinois, May 2018

TECHNICAL SKILLS

LANGUAGES	Python, C, C++, Java, Bash, Fortran NodeJS, Julia, \LaTeX
LIBRARIES	scipy, numpy, Firedrake, PETSC, OpenMP, Cython, multiprocessing, Flask, ExpressJs, OpenFrameworks, SpaCy, TextBlob, nltk, manim
SOFTWARE	Linux, Docker, MySQL, Excel, Apache Hadoop, Solr, Spark, Hive

RELEVANT COURSEWORK

Abstract Linear Algebra	Numerical Analysis
Differential Equations	Real Analysis
Computational Mathematics	Numerical Modelling
Graph Theory	Number Theory
Artificial Intelligence	Machine Learning
Data Structures	Advanced Algorithms
Computer Architecture	Systems Programming

WORK EXPERIENCE

JUNE 2019 – AUG 2019

Waterline Data

Software Engineering Intern

Working with a Machine Learning-based data catalog, to manage and process big data. Creating a fast, robust query engine for the said software. Workflow optimization and parallelization. Creating additional visualization tools for data in the catalog.

JAN 2018 – DEC 2020

University of Illinois

Course Assistant

Developing educational content for courses in Introductory Programming, Software Design, Numerical Methods. Working one-on-one with students to communicate technical and theoretical topics. Leading weekly code review sessions, allowing students to write industry-standard code.

MAY 2017 – AUG 2017

SM Netserv Technologies

Language Processing (NLP) Researcher/Developer

Using Machine Learning methods to link sentences by subject matter. Scraping and sanitizing social media text data (Facebook, Twitter, etc). Designing and creating a sentiment engine for review data based on a Valence Aware Dictionary (VADER).

ADDITIONAL INFORMATION

LANGUAGES	English, Hindi, Tamil
CREATIVITY	Self-taught pianist, guitarist, and bassist
AWARDS	Dean's List - University of Illinois Spring 2020
LEADERSHIP	Class Representative - ACSE Imperial College London

REFERENCES

NAME	Prof. Mariana Silva
POSITION	Teaching Assistant Professor University of Illinois
EMAIL	mfsilva@illinois.edu

NAME	Dr. Pablo Salinas
POSITION	Research Fellow, NORMS Imperial College London
EMAIL	pablo.salinas@imperial.ac.uk