

# Akhil Krishna Mohan



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<https://www.github.com/nimberledge>  
LinkedIn Profile  
Last updated on: Mar 4, 2022.

## EDUCATION

2017 - 2021	<b>B.Sc Mathematics &amp; Computer Science</b> <i>University of Illinois Urbana-Champaign</i>
2021 - 2022	<b>M.Sc Applied Computational Science &amp; Engineering</b> 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.

### pyroteus

Developed efficient kernel structures to calculate mesh quality measures for goal-oriented mesh adaptation. Created demonstrations of metric-based mesh adaptation for Computational Fluid Dynamics applications.

## 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, Eigen, OpenMP, OpenMPI, 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
Artificial Intelligence	Machine Learning
Computational Mathematics	Numerical Modelling
Graph Theory	Number Theory
Data Structures	Advanced Algorithms
Systems Programming	Parallel 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 Numerical Methods, Introductory Programming, Software Design. 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	Original Games - rewordle, 56, no-thanks Visual Tools - sidekus, approximating-Pi Self-taught pianist, guitarist, and bassist
AWARDS	Dean's List - University of Illinois Spring 2020
LEADERSHIP	Class Representative - 2021-22 Team leader - gAIme

## REFERENCES

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

NAME	<b>Dr. Pablo Salinas</b>
POSITION	Research Fellow, <b>NORMS</b> Imperial College London
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