# Vanaj Krishna Moorthy

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## EDUCATION

**University of St Andrews**                                                                    **September 2020 – June 2024**
*Bachelor of Science in Computer Science (with honours)*
*Dean's List 2021, 2024 for academic excellence*
*First class degree classification*

**The Shri Ram School, New Delhi**                                                              **April 2006 – April 2020**
*ISC High School Certificate*
*12th-grade board exam (A level equivalent): 93.4%*

## TECHNICAL SKILLS

**Languages:** Java, JavaScript, HTML, CSS, Python, C (Proficient), Swift, Dart, R, Go, Kotlin, Haskell (Familiar).
**Tools and Frameworks:** Express, MongoDB, MySQL, PostgreSQL, Vue, Nuxt, Gridsome, React, Next.js, Gatsby, P5.js, Flutter, Git (Proficient), Django, UI Kit, PyTorch, TensorFlow (Familiar).

## PROJECTS

### Automatic Polyphonic Guitar Transcription
A machine-learning model to automatically transcribe audio recordings of solo acoustic guitars to readable guitar tablature built using TensorFlow. Undertaken for my Senior-Honours dissertation, this model builds on academic work in the nascent field of using machine learning for Music Information Retrieval (MIR) and utilises a convolutional neural network to learn features from spectograms of guitar audio recordings to automatically produce usable guitar tablature.

### mcow.ml
A self-hostable URL shortener built using ExpressJS and MongoDB, complete with authentication, custom short links and the ability to save shortened links to your profile. While the site was active it retained ~1000 monthly active users.

### Speechylang and Siren
Two small attempts at programming language design. Speechylang is a LISP-style language with basic functionality that transpiles to JavaScript. Siren is a more fully featured language with a transpiler written in Python that transpiles the language to executable C code.

### PuzzleFlix
A complete web application for making and playing puzzle games such as sudoku and the eights puzzle. Built by a team of 5 in ExpressJS and ReactJS with MySQL as a database for my third-year software engineering project using SCRUM and agile methodologies.

## WORK EXPERIENCE

**Freelance Web Developer**                                                                    **2022 - present**
- Helped develop the main website for a cancer prehabilitation startup called Alvie on a contract basis as well as an individual private website for the founder of the company using VueJS, with a JAMStack approach, which led to a ~30% increase in private patient referrals.
- Developed a portfolio website for an architecture firm using NuxtJS with a JAMStack approach and Prismic to manage the content. This new website, combined with more refined search-engine optimisation led to a 200% increase in unique monthly website visitors and a 50% increase in online client referrals.

**The Orange Yak Co.**                                                                          **2020 – 2022**
*Co-founder, Web Developer, UI/UX Designer*
- Founded and scaled a freelance web development firm to a team of 15+ members and 30+ clients worldwide.
- Led client acquisition, interviewed and hired a team from a total of 50 applicants, and learnt how to negotiate and close large deals, along with dealing with clients, business details, and the general day-to-day firefighting of running a firm.
- Developed numerous websites and web-applications in Django and NodeJS for established venture capital firms such as Sequoia Capital and Beenext Partners which taught me how to deliver value to a diverse array of stakeholders.

**ACT Grants**                                                                                  **2020 – 2022**
*Web Developer*
- Worked as a web developer at ACT Grants, India's largest COVID-relief fund.
- Communicated with 70+ volunteers and donors including teams at Sequoia Capital and Boston Consulting Group.
- Built the official website for the company using WordPress. Created a dedicated donation page using NodeJS and the Razorpay API which was then deployed on the edge and used to handle large volumes of incoming donations from across the globe which converted website traffic of 80 thousand users per week into donations of 1 billion INR.