

IBRAHIM MUSTAFA OPU

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SUMMARY

Self-taught programmer in Toronto, on a gap year before starting a computer science degree. I designed and published Whisper, a programming language with its own lexer, parser and interpreter, available on PyPI with a VS Code extension. I write mostly Python and JavaScript, and I am working through data structures and algorithms alongside Harvard's CS50x. Looking for junior or entry-level development work.

PROJECTS

Whisper — programming language

Python · Lexer, parser, interpreter

github.com/ibrahim787898m/whisper-lang · pypi.org/project/whisper-lang · whisper.ibrahimmustafaopu.com

- Designed and implemented an interpreted language with conversational English syntax, writing the lexer, recursive-descent parser and tree-walking interpreter from scratch.
- Published to PyPI as whisper-lang (Python 3.7+, no dependencies, MIT), with a companion VS Code extension for syntax highlighting and a documentation site.
- Implemented story objects, a feature for declaring characters and items in plain sentences; resolved attribute collisions between objects by giving each its own namespace instead of a single shared lookup table.

Grocery Split — real-time web app

JavaScript · Firebase · HTML/CSS

github.com/ibrahim787898m/grocery-split · grocery-split.ibrahimmustafaopu.com

- Shared expense tracker in continuous weekly use by two people on separate devices, with real-time sync via Firebase Realtime Database, password auth, per-month views and automatic split calculation.
- Designed the data model to handle concurrent writes from multiple clients — the main engineering problem in the project.

Online Diary — web app

JavaScript · Firebase · Auth

github.com/ibrahim787898m/diary-webapp · diary.ibrahimmustafaopu.com

- Private journalling application with entry creation, sorting, organisation and password authentication — my first project deployed with a real backend and multi-user auth.

NLP toolkit — command-line tool

Python · spaCy

- CLI tool running eight NLP operations on arbitrary input text — tokenisation, lemmatisation, POS tagging, named entity recognition, dependency parsing, stop-word removal and sentence detection — with results rendered as formatted tables.

TECHNICAL SKILLS

Confident HTML, CSS, JavaScript, Python, Git, responsive layout

Working with Firebase, C, C++, data structures and algorithms, spaCy

Learning React, TypeScript, SQL, testing

EDUCATION & COURSES

CS50P — Introduction to Programming with Python, Harvard University [certificate](#) 2025

CS50x — Introduction to Computer Science, Harvard University In progress

Higher Secondary School Certificate — Sylhet Government College, Science, GPA 5.00/5.00 2020 – 2021

Secondary School Certificate — Starlight Academy, Science, GPA 5.00/5.00 2018 – 2019

ADDITIONAL

Languages English, Bengali, Hindi