## Shreyas Vinod

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Synopsis

I revere the indefinite complexity of the universe and the human mind. I am on a quest to understand neural networks and their silicon counterparts and an inquisitive passion for engineering and robotics and a strong admiration for the field of Computer Science as a whole. Understanding what gravity does is uninteresting. Why – on the other hand, must be beautiful.

Academia

## Politechnika Warszawska, Warsaw, PL

2015 - present

B.Sc., Computer Science year 1 GPA: 4.4/5.0

Programming

C/C++ (preferred: several ten thousand lines); Python; Verilog; Java

Noteworthy Projects Elise control automation for ROVs and multirotors on embedded platforms

ongoing

- Designed for AHTI, an underwater ROV.
- Scalable and adaptable to multirotors and related platforms.
- Multithreading capable to maximise performance of embedded platforms.
- Handles a plethora of sensors, including inertial measurement for PID control.
- Self-stabilisation and movement algorithms.
- Integral displacement calculation.

Cortex fast and lightweight bitboard UCI chess engine in C++

December 2014

- Minimax with alpha-beta pruning.
- Uses processor-native 64-bit integers, or 'bitboards'.
- GCC's low level assembly: incredibly fast move generation.
- Move search efficiency using simple heuristics such as MVV-LVA.
- Zobrist hashing and transposition tables for efficient search.
- Simple, but effective static evaluation for roughly 2000 elo.
- Universal Chess Interface (UCI) GUI protocol supported.
- Intended to be upgraded to self-learning using dynamic evaluation.

Neptune 16-bit custom RISC architecture microprocessor in Verilog

October 2013

- Originally designed on a Xilinx Spartan 6 FPGA.
- Microcoded by hand atop a custom MIPS-like architecture.
- Handmade serial display segments with custom protocols.
- Human-readable instruction set.
- Intended to teach introductory assembly to fellow students.

NOTEWORTHY MISCELLANEOUS

## MATE Underwater Robotics Competition, Long Beach, CA, US

upcoming

- Team member of the Students Underwater Robotics Association.
- Responsible for control software, electronics and automation.
- PID control from inertial measurement.
- Custom-built PCBs for power and sensors.
- Responsible for ROV control during the competition.

## An Introduction to Interactive Programming in Python

November 2014

Rice University on Coursera, 100%

Interests

Artificial Intelligence; machine learning; behavioural psychology; philosophy; chess; writing; algorithmic, mathematical thinking; and curiosity with a passion

Professional Freelance writing as a hobby 2013 - 2014

HostUS web-hosting services 2012

Systems Administrator

• Systems administration during the company's genesis.

FEATURED Human Behavioural Psychology and the Social Construct

BLOG POSTS

The Egocentric Predicament: The Bad and the Atrocious

LINGUISTICS International English Language Testing System (IELTS) November 2014

Reading: 9.0 Listening: 9.0 Writing: 7.5 Speaking: 8.5 Overall: 8.5

Others: Hindi; Malayalam; and Marathi

LINKS LinkedIn shreyasvinod

PERSONAL Born 19<sup>th</sup> December, circa. 1997 Nationality Indian