ANANTA SHAHANE

M.S. Computer Science

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SKILLS

Languages	Swift, C++, Python, Golang, Markdown, C, bash
Frameworks	SwiftUI, Qt, HTTPS, json, Cirq, Openfermion, Scikit-learn, Keras, Docker, gdmc, SQL
Operating Sys.	macOS, Fedora, Asahi Linux, Ubuntu, RHEL (RH066x Certification)
Editors	Visual Studio Code, XCode, Zed

RELEVANT PROJECTS AND RESEARCH EXPERIENCE

Fall 2023
masters thesis

Research Thesis — **Y. Fan, LIACS**
Engineered geometrical perspective to solve *green vehicle routing problem* using *Evolutionary computation*.
Improved convergence speed by 10%, while reducing hyper-parameter count from 10-12 to only 2-3.
Introduced initialiser that produces population within 130% of optimal solution.
Research published in ACM Journal by GECCO 2024; Melbourne, Australia.
`Evolutionary Algorithms / Swift / Python / OOP / MOO / NSGA-II`

Spring 2023

Experiment: Embedded Systems — **Dr. T.P. Stefanov, LIACS**
Programmed and optimised software for Xilinx FPGA to perform real-time edge detection.
Used only 66% of the expected channels in KPN leading to 28% performance lift.
Earned recognition as the top performing software among peers.
`Sobel / C / Daedalus / FPGA Programming`

Fall 2022

Research Assistant, Evolutionary Intelligence Lab — **Dr. Hao Wang, LIACS**
Designed genetic algorithm for searching DL Architecture for image detection.
Discovered the link between adjacency matrices and the crossover operator.
Improved convergence speed and stability towards optimal solution.
`Python / nasbench / Evolutionary Algorithm / Deep Learning / iOH Analyser`

Fall 2022

Experiment: Robotics — **Dr. E.M. Bakker, LIACS**
Utilised time averaged K-Nearest Neighbors to discriminate between walls and furniture.
Helped navigate the robot between rooms easily by reducing resource utilisation on perception.
`Python / Machine Learning / CoppeliaSim / Trignometry`

Spring 2022

Experiment: Quantum Algorithms — **Dr. Vedran Dunjko, LIACS**
Explored Randomised Measurement Toolbox or Classical shadows and its diverse applications.
Validated a section of the research paper by implementing the algorithm.
`Python / cirq / openfermion / numpy`

2018-2022

Apple Platforms Developer — **Freelance**
Developed, published and supported a cross platform app Today Productivity on iOS, iPadOS and macOS.
Assisted users to plan and execute their days, using latest *Apple Technologies*.
`Xcode / Swift / SwiftUI / RDBMS / CloudKit / WidgetKit / WebDev`

2017-2018

Software Engineering Intern — **Trusting Social**
Engineered a robust proxy for the Gilmour micro-service broker system, facilitating universal access across programming languages via HTTPS. That efficiently managed a vast array of micro-services.
`Golang / Micro-Services / Docker / Prometheus / Graffana / CAdvisor / HTTP / json`

EDUCATION

2021 – 2023

Masters of Science — **Leiden University, The Netherlands**
Computer Science—Foundations of Computing — 7.50
A Corridor Model Evolutionary Algorithm for Fast Converging Green Vehicle Routing Problem. — Published
Courses: Quantum algorithms, evolutionary & combinatorial algorithms, multimedia systems, software testing & verification, robotics, modern game AI, computational models & semantics, deep learning, embedded systems.

2014 – 2018

Bachelor of Engineering — **Pune University, India**
Computer Engineering — 64%
Thesis: A Scalable Broker Model for Micro-Service Orchestration. — 90%
Courses: OOP, microprocessor architecture, OS, data structure and algorithms, computer graphics, DSP.

MISCELLANEOUS

2017-2024 **Conferences**
Free Open Source Software Meet (2018), try! Swift Banglore (2017), GopherCon 2018, Kernel Meetup 2017-2018, Google Meetup 2018, Quantum Games (2023), Quantum Amsterdam (2023), GECCO 2024 Melbourne Australia*.

2019 **Fundamentals of Red Hat Enterprise Linux (RH066x)** **edX**
Awarded for 100% completion of course, with 8 assignments, 6 weeks.

2017 **Networking and Security in iOS Applications** **University of California, Irvine via Coursera**
Awarded for 98% grade of course, spanning 4 months and 16 assignments.

2013-2014 **Certificate of Excellence in Physics** **Center Point School**
Awarded for Excellence in Physics by the British Council International School Awards ($1^{st}/120$).

2010 **National Cyber Olympiad** **National Olympiad Foundation, India**
Scored #1,896 (91 percentile) in National Olympiad.

Achievements **Scores**
ToEFL: 101/120
GRE: 316/340 (Quant: 167, Verbal: 149)
Hackerrank: 5 ★ `C++` | `Problem Solving` | `Python` / 4 ★ `C`

LANGUAGES

English - proficient
Marathi - native
Hindi - native
Dutch - learning

ACTIVITIES

Biking (3400^{+} km); **Gaming**: Tekken 7 (Finished 17th of 107 in national DOJO event); **Music**: Jazz; **Trekking** 180km in 5 days to Pindhari Glacier. **Olympiads**: Consistently top 8 performing students in school in National Olympiads. **Intellectual**: Passionate about Physics and Mathematics; **Hobby**: PC Building.