IGOR BANIN

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Education

University of Washington, Seattle **Expected Graduation : 12/2020**

Bachelor of Science in Applied Physics

- **Completed Coursework**: Data Structures & Algorithms, Scientific Computing, R programming, Digital Circuits & Systems, Web Programming, Data Analysis
- **Ongoing Coursework:** Artificial Intelligence, Data Programming, Algorithms & Computational Complexity, Computer Systems
- **Upcoming Coursework:** Software Development, Machine Learning, AI, Web Applications, Android & iOS App Development, Distributed Applications, Database Systems

Experience

Programming and Robotics Instructor 05/2017 – 02/2020 *Step Computer Academy, Redmond, WA*

- Taught classes of up to 12 students introductory programming in Python, Objective C and web development.
- Graded and administered exams in Python and Computer Fundamentals.
- Designed robotics curriculums for summer camp in Arduino and LEGO Mindstorms.
- Worked with Raspberry Pi camera sensor programming in Python.

CCNP Certified - 06/2016
CCNA Certified - 06/2015

Projects

Time Laser(Arduino/Objective C)

- Utilized the Arduino UNO microcontroller, servos, and UV laser to design and build a laser drawing time display.
- Created a testing program to deserialize servo byte data into a C queue, to understand servo angle.
- Created an executable program to draw the current time into 24hr time format using vector graphics.

Link Lives (Python)

- Attended DubHacks 2017 and worked in a team to build a link shortening service that donates 100% of ad revenue to Nothing but Nets.
- Created a Reddit bot through PRAW to distribute the link shortening service on keyword identification.

Search Engine (Java)

- Implemented chained hash set, chained hash dictionary and array 4-heap, as well as comprehensive functionality tests.
- Implemented TF-IDF, and Page Rank algorithms to sort the relevance of search engine results.

Maze Solver (Java)

- Implemented a disjoint set with an array-based representation, as well as basic graph methods.
- Using Kruskal's algorithm, implemented methods to find the minimum spanning tree of a graph to create random but solvable mazes.
- Implemented Dijkstra's to efficiently solve created mazes, as well as functionality tests for methods listed.

Higgs Boson Discovery (Python)

- Utilized simulated data from the Large Hadron Collider to graph and sensibly explain what kind of data the LHC collects.
- Graphed and analyzed 100k jets from the Higgs signal and QCD background data sets; used data of transverse momentum, jet pseudo rapidity, azimuthal angle, etc. to identify probability of 5-sigma events (seeing a Higgs Boson).

Skills

Languages: Java, Python, MATLAB, R, Objective C, HTML, CSS, JavaScript, Assembly, Verilog
Other: GitHub, GitLab, Version Control, TensorFlow, WordPress, VMware, Vim, Windows, macOS, Linux

Extracurricular

Greater Seattle Cares - 06/2019

- Volunteered as web master for Greater Seattle Cares, updated their website hosted through WordPress and setup backups.

University of Washington Boxing Team 2017

Hobbies: Weightlifting, Running, Basketball, Travel
Languages: English and Russian