Onur Kulaksızoğlu

Ankara – Turkey

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Education

- **University of Maryland, College Park** — **College Park/US**
  Master of Science, Computer Science, cGPA: 3.68/4.00 — *2019–2023*
- **Bilkent University** — **Ankara/Turkey**
  Bachelor of Science, Computer Science, cGPA: 3.80/4.00 — *2014–2019*

Technical Skills

- **Programming Languages: C++, Java, Python, R, C#, OpenGL**
  Familiarity with: C, S Verilog, MIPS, SQL, Matlab, Lisp, MongoDB, TypeScript, d3.js.
- **Tools:** Several IDEs, TeX, Git, Unity, Unreal Engine, SVN, Vivado.

Work Experience

- **Joker Games** — **Remote/Turkey**
  Freelance Software Engineer — *July 2023–October 2023*
  Wrote an new AI for their spades app. Introduced some ML techniques and heuristic based tree search methods in **Python & Java**.
- **University of Maryland, College Park** — **College Park/US**
  Graduate Research: Taskable Reinforcement Learning Agents for Game Playing — *June 2020–June 2023*
  - Programmed 4 games in **Python**, e.g. a 2D minecraft-like game, adventure game, escape room game.
  - Created SotA RL architectures in **Torch** and evaluated them on these games, plus some other baseline domains.
  - Evaluated agents on remote Linux servers, worked with **containers, SLURM, Singularity**.
  - **Authored two papers** summarizing my research.
- **University of Maryland, College Park** — **College Park/US**
  Game Programming Teaching Assistant — *August 2019–May 2020*
  Worked as a TA in the Game Programming Course (CMSC425) for 3 semesters. Assisted and evaluated hundreds of students on topics of **game logic, geometry, C#, and Unity.**
- **Milsoft** — **Ankara/Turkey**
  Part-Time Software Engineer — *November 2018–May 2019*
  Programmed drones for search, pursuit, and patrolling tasks involving several moving targets. Created a rule based algorithm in **Java** to allocate tasks to drones and made a technical presentation to the managers.
- **Fraunhofer IIS** — **Nuremberg/Germany**
  Software Engineering Intern — *June 2018–September 2018*
  Expanded an existing **GNSS Receiver project**, which was a general receiver that is compatible with all navigation systems. Implemented the BeiDou receiver of the project, the GPS equivalent of China, in **C++**.
- **Case Western Reserve University** — **Cleveland/US**
  Research Intern — *June 2017–August 2017*
  Developed a novel clustering algorithm for classification of complex diseases (e.g. autism) **using linear programming in C++**.

Notable Projects

- **OpenGL GPU Projects/Demos** *Physics Simulations and Complex Reflections*

  Made simulations of: a room with **multiple 3D colliding rigid bodies**, **mirror ball with realistic reflections**, **waving a flag using projective dynamics** algorithm. All three projects require good understanding of geometry/math and efficient use of C++.
- **3D Ray Tracing Render:** *Several Path Tracing Algorithms with Different Surface Types.*

  Implemented ray tracing algorithms (BDPT, Whitted Ray Tracing) in **C++ on CPU**. Based on Nori, the complete work supports different surfaces (microfacet, dielectric etc.) and random sampling functions (blinn, beckmann, sphere etc.).
- **Clang Compiler Plugin for Auto Thread Parallelization:** *insert OpenMP pragmas into C files*
- **Interactive Dashboard using d3.js, Flask, PosgreSQL:** *Visualize large scale data of user ratings*