Emil Levo

Game Programmer Computational Physicist

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Who Am I?

A 27 year old doctor in computational physics, now turned to game programming. Currently studying Game Design and Production at Aalto University. My main areas of interest include gameplay programming, graphics programming and high performance computing.

Programming



Game Engines

Other Tools













Experience

2021 – Research Assistant

Aalto University

Working on research experience projects (REPs) alongside my studies in Game Design and Production. The first REP during autumn involved a short literature review and independent experimentation regarding world data utilization in virtual landscape generation. For the current REP I have moved to graphics programming, a new but exciting field to me

Graphics / Unity / Real World Data / Python

2019 - 2021

Doctoral Researcher

University of Helsinki

Computational research of irradiation damage in high entropy alloys for fusion reactor applications. The work included running computationally intensive molecular dynamics irradiation simulations, analyzing irradiation damage in simulated samples, publishing results via peer-reviewed articles in journals related to the field, and teaching.

Molecular Dynamics / OVITO / Linux / Python

2015 - 2019

Research Assistant

University of Helsinki

Computational research of irradiation damage in high entropy alloys for fusion reactor applications.

Molecular Dynamics / OVITO / Linux / Python

2014

Museum Guard

Rilaxmonumentets traditionsförening r.f.

Guarded and gave guided tours of an exhibit honouring the 300th anniversary of a naval battle fought in the Gulf of Finland.

Guarding / Guiding / Customer service

Education

2021 - Master's Degree

Aalto University

Master's Programme in Computer, Communication and Information Sciences Major: Game Design and Production

2019 – 2022 **Doctoral Degree**

University of Helsinki

Doctoral Progamme in Materials Research and Nanoscience

2017 – 2019 **Master's Degree**

University of Helsinki

Master's Programme in Materials Research Line: Computational Material Physics 2014 – 2017 Bachelor's Degree University of Helsinki

Degree Programme in Physical Sciences

Major: Theoretical Physics

Teaching

2017 – 2019 Teaching Assistant University of Helsinki

Mathematics for Physicists I

Basics of vector calculus, power series, differential calculus, integral calculus

2017 – 2019 Teaching Assistant University of Helsinki

Mathematics for Physicists II

Complex numbers, ordinary differential equations, vector calculus

2018 – 2021 Teaching Assistant University of Helsinki

Mathematics for Physicists III Linear algebra, vector calculus

International Experience

2019 ICFRM 2019 San Diego

International conference on fusion reactor materials

Poster presentation

2014 – 2015 Lancaster University Lancaster

First year BSc physics studies.

Publications

[1] Levo, E. (2022). Radiation Damage in High Entropy Alloys. University of Helsinki.

- [2] Levo, E., Granberg, F., Utt, D., Albe, K., Nordlund, K., & Djurabekova, F. (2019). Radiation stability of nanocrystalline single-phase multicomponent alloys. Journal of Materials Research.
- [3] Levo, E., Granberg, F., Fridlund, C., Nordlund, K., & Djurabekova, F. (2017). Radiation damage buildup and dislocation evolution in Ni and equiatomic multicomponent Ni-based alloys. Journal of Nuclear Materials, 490, 323-332.
- [4] Granberg, F., Djurabekova, F., Levo, E., & Nordlund, K. (2017). Damage buildup and edge dislocation mobility in equiatomic multicomponent alloys. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 393, 114-117.

Awards

2019 Runner-up for Best Scientific Poster De Finlandssvenska Fysik- och Kemidagarna

2017 Best Scientific Poster De Finlandssvenska Fysik- och Kemidagarna

References

Prof. Kai Nordlund University of Helsinki

Supervising professor of doctoral studies Email: kai.nordlund@helsinki.fi

Mobile: +358-40-5562806

Languages

Swedish - native Finnish - native English - excellent

Hobbies

If not working, or studying, one can most certainly find me at the gym, playing games, cooking, writing my book, or planning my future winery.

Military Service

Served as a conscript in the Finnish Defence Forces for a year. Underwent non-commissioned officer training and gained valuable leadership skills.