

**SC Movidius SRL**

Str. Gheorghe Lazar, nr. 24, 3rd floor, Rooms 4/5/6,

300081 Timisoara, Romania

Persoana de contact:

Valentin Mureşan [valentin.muresan@movidius.com](mailto:valentin.muresan@movidius.com)

*Movidius description:* Movidius (<http://www.movidius.com>) is an award-winning fabless semiconductor company, established in 2005, backed by a strong international consortium of venture capital companies. Movidius delivers unique multimedia processing capabilities including High Definition 2D or 3D Video, high-resolutions image capturing & processing, computational photography and computer vision processing. Typical user applications include capturing, compressing, creating, editing, sharing, viewing and real-time improvement of multimedia content. Movidius technologies are specifically designed for low power mobile phone and consumer electronics, enabling manufacturers to create highly differentiated products and enhanced user experiences. Movidius offers competitive salaries and a dynamic work environment driven by a young team with permanent professional development opportunities. Movidius is headquartered in San Mateo, California, with an R&D center in Dublin and a sizeable R&D center in Timisoara, Romania. Video: <https://www.youtube.com/watch?v=vsQJ4qkCl1k>

**Tematică pentru stagii de practică**

**Domain: Linear Algebra**

Movidius is building a special low-power DSP processor that is amenable for video processing, image processing and computer vision applications. It sits behind the camera sensors (of mobile phones, drones, head mounted VR headsets) and processes the video flow captured by such ever evolving sensors. Camera sensors have grown to high resolutions (>10Mpixels) or special technologies such as infrared or thermal.

Computer vision is one of the next technologies on mobile devices, turning current cameras into smart sensors able not only to capture content but also process and extract information about the content, such as objects, persons, obstacles in the scene it is pointed towards. One special applications is collision detection and avoidance and in that field, linear algebra is a special functionality. Movidius has developed an optimized BLIS/BLAS library that can be used to develop further various other applications that are based on linear algebra. A non-exhaustive list of possible applications is here:

- Constructing Curves and surfaces passing through Specified points
- Least Square approximation
- Traffic Flow
- Electrical Circuits
- Determinant
- Genetics
- Graph Theory
- Cryptography
- Markov Chain
- Leontief Economic Model

[https://www.math.ucdavis.edu/~daddel/linear\\_algebra\\_appl/Applications/applications.html](https://www.math.ucdavis.edu/~daddel/linear_algebra_appl/Applications/applications.html)

**We would like to hire internship students over summer to work on such applications and extend the capability of the Movidius technology in these new linear-algebra powered fields.**