Kunal Pal

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EDUCATION

Bachelor of Engineering (Summer, 2015)
Jadavpur University, Kolkata, India - 700 032.
Departments: Electronics and Tele-Communication Engineering
CGPA (linear): **9.10** (Avg. marks **85.50%**)

Higher Secondary - 2011
Mahesh Sri Rama-Krishna Ashram Vidyalaya, Rishra.
Concentration: Science
Score : **92%** (with **96%** in Science Group, **100%** in Maths)

Secondary - 2009
Mahesh Sri Rama-Krishna Ashram Vidyalaya, Rishra.
Concentration: General
Score : **89%** (with **97%** in Science Group, **99%** in Maths)

ACADEMIC ACHIEVEMENTS

1. Secured Rank-**49** in West Bengal Joint Entrance Examination.
2. Secured All India Rank-**5216** in AIEEE.
3. Secured All India Rank-**8891** in IIT-JEE.
4. Received honors from the Chief Minister for Higher Secondary Result.
5. Have been the recipient of MCM-HS state scholarship (2009-11) and MCM-ENGG state scholarship (2011-15).

TECHNICAL SKILLS

Languages: C, C++, JAVA, SQL, LaTeX
BASH, Matlab, Intel 8085 assembly.
Frameworks: Parallel Computing - OpenMP,
Game API - LibGDX,
GUI - Swing, JavaFX,
Application FW - Android.
Software: Circuit Maker, Multisim, Matlab, Mathematica,
Visual Studio, QT Creator, Eclipse.
Operating Systems: Linux, OS X, MS Windows.

TECHNICAL ACHIEVEMENTS

C and C++: Developed an Island Model parallelization using C and C++ with OpenMP and CUDA frameworks as part of the internship project.

JAVA: Developed an 8085 assembler for simulation purposes as Compiler Design project using JavaFX framework. Source codes available at GitHub.

Developed a game for Android platform (Gubbins Beta) with LibGDX framework.

Currently developing an android app for Teachify for spreading education in remote villages.

INTERNSHIPS

1 : Pursued an internship under **Dr. Bijay Ketan Panigrahi**,
Electrical Engineering Dept.,
Indian Institute of Technology, Delhi, India on *Score-level fusion in Biometric Authentication* (Winter 2013)

2 : Pursued another internship under **Dr. Dipti Srinivasan**,
Electrical and Computer Engineering Dept.,
National University of Singapore, Singapore on *Application of Island model for parallel computing in Multi-objective algorithms* (Summer 2014).

RESEARCH INTERESTS

- Single Objective Optimization
- Multi-Objective Optimization
- Parallel Computing
- Power Systems Optimization
- Machine Learning

PUBLICATIONS

1 : **Kunal Pal**, Chiranjib Saha, Swagatam Das, Carlos A. Coello Coello, *Dynamic Constrained Optimization with offspring repair based Gravitational Search Algorithm*, *IEEE Congress on Evolutionary Computation 2013* (IEEE CEC 2013), Cancun, Mexico, June 19-23, 2013.

2 : Satrajit Mukherjee, **Kunal Pal**, Bodhisattwa Prasad Majumder, Chiranjib Saha, B. K. Panigrahi, *Differential Evolution Based Score Level Fusion For Multi-modal Biometric Systems*, accepted for publication *in IEEE Symposium Series on Computational Intelligence(SSCI), 2014.*

3 : Chiranjib Saha, **Kunal Pal**, Satrajit Mukherjee, Swagatam Das, *A Fuzzy Rule Based Penalty Function Approach For solving Constrained Optimization*, accepted for publication in *IEEE Transactions on Systems, Man and Cybernetics (Part - B).*

4 : **Kunal Pal**, Chiranjib Saha, Swagatam Das, Carlos A. Coello Coello, *Multi-population based Gravitational Search Algorithm with offspring repair technique for solving Dynamic Constrained Optimization Problem*, under revision in *Information Sciences, Elsevier.*

5 : Anupam Trivedi, Dipti Srinivasan, **Kunal Pal**, Chiranjib Saha, *Enhanced Multi-Objective Evolutionary Algorithm Based on Decomposition for solving Unit Commitment problem*, accepted for publication in *IEEE Transactions on Industrial Informatics.*

6 : Anupam Trivedi, Dipti Srinivasan, **Kunal Pal**, Thomas Reindl, *A Multiobjective Evolutionary Algorithm based on Decomposition for Unit Commitment Problem with Significant Wind Penetration*, accepted for publication in *IEEE PES Asia-Pacific Power and Energy Engineering Conference 2015*

7 : Anupam Trivedi, Dipti Srinivasan, **Kunal Pal**, Thomas Reindl, *A Multiobjective Evolutionary Algorithm based on Decomposition for Solving the Unit Commitment Problem in Uncertain Environment* , under revision in *Swarm and Evolutionary Computation.*

8 : **Kunal Pal**, Xiaoyi Jiang, Ananda S. Chowdhury, *Microaneurysm detection using LBP-SUSAN synergism* , submitted in *IEEE International Symposium on Biomedical Engineering, 2016.*

FINAL YEAR PROJECT

Developed a novel statistical image processing algorithm for detection of Microaneurysm points in retinal images.
Supervisor : **Prof. Ananda Shankar Chowdhury,**
Dept. of Electronics and Tele-Communication Engineering,
Jadavpur University.

WORK EXPERIENCE

Currently working as a Software Developer (from June, 2015) at **Applied Research Works (I) Pvt. Ltd.**, Analytics Division to develop novel health-care prediction algorithms to enhance the efficiency of *US Medicare and Medicaid systems* using *pattern recognition and data mining.*

EXTRA-CURRICULAR ACTIVITIES AND HOBBIES

- Game and App. development for Android platform
- State Level Swimmer
- Playing Guitar

REFEREES

- Prof. Swagatam Das, Indian Statistical Institute, Kolkata, INDIA.
- Dr. Anupam Trivedi, National University of Singapore, SINGAPORE.
- Prof. Sheli Sinha Chowdhury, Jadavpur University, Kolkata, INDIA.